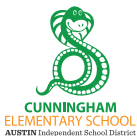




# School Partner Lesson Plans



Each year, our school partners share lesson plans created by teachers using the curriculum for Emeril's Culinary Garden & Teaching Kitchen.



The scope and sequence documents and lesson plans in the pages that follow are either adaptations or new lessons from schools that were inspired by our curriculum. For this reason, you may notice differences in formatting and content.



Thank you to our contributors:

- Belle Chasse Academy (Belle Chasse, LA)
- Cunningham Elementary School (Austin, TX)
- DC Bilingual Public Charter School (Washington DC)
- Dr. John Ochsner Discovery Health Sciences Academy (Jefferson, LA)
- Life Lab (Santa Cruz, CA)
- Partners for Education, Agriculture & Sustainability (PEAS) (Austin, TX)
- Starlight Elementary School (Watsonville, CA)



Our hope in sharing these lesson plans is to further inspire teachers to continue building upon the lessons in our curriculum and to build a library for others to access.

These lesson plans have been inspired by Emeril's Culinary Garden & Teaching Kitchen and are shared by the Emeril Lagasse Foundation. While we retain ownership of these specific lesson plans, any third-party resources or handouts included are shared solely as examples and we do not claim ownership of them. We encourage educators to adapt and modify these plans to suit their needs, while respecting the intellectual property rights of others.

2020–2023



# SCHOOL PARTNER LESSON PLANS

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*Garden*

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# FBI (FUNGI, BACTERIA, INVERTEBRATES)

Garden

Grades Pre-K–2 • 45 mins • Fall, Spring • Outdoor

ADAPTED

GRADES PRE-K–2

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

PEAS • info@peascommunity.org

## ? ESSENTIAL QUESTIONS

- Big Idea: The nutrients within soil are the product of decomposers working to break down organic matter.
- Big Question: Does nature create trash?

## MATERIALS

- FBI Examples
- Samples of half-decomposed compost
- Bug catchers
- Gloves
- Magnifying glass
- Trays
- Compost sifters (optional)
- Large pitchfork (if compost pile present)

## Abc VOCABULARY

- Decompose/se descomponen
- Humus/humus
- Organic/orgánico
- Plant and animal remains/restos de plantas y animales
- Texture/textura
- Soil/suelo
- Fungus/hongo
- Bacteria/bacteria
- Invertebrate/invertebrado

## ASSESSMENT

Farm & Food journals for tracking and note-taking (optional)

### NOTE:

Adapted from **Grade 1 Garden Lesson #5: Soil Web**, pg 428.

## PREPARATION (15 MINS)

- Collect samples of compost in various stages.
- Collect various examples of FBI in jars.
- \*Option—invite teachers ahead of time to collect food scraps from their class snacks/lunches to drop into the compost pile during this lesson. Be sure to inform them of what is and isn't appropriate for the compost pile.

## TEACHER BACKGROUND

- Rotting food (or food that's gone bad) doesn't look or smell great but it contains a wealth of nutrients, including carbon, nitrogen, and phosphorus. Living organisms require these nutrients to create cells, tissues and to provide energy for life processes.
- Decomposers (fungi, bacteria, invertebrates such as worms and insects) have the ability to break down dead organisms into smaller particles and create new compounds. We use decomposers to restore the natural nutrient cycle through controlled composting.

## LESSON DESCRIPTION

Decomposers are the link that keeps the circle of life in motion. The nutrients that decomposers release into the environment become part of the soil, making it fertile and good for plant growth. These nutrients become a part of new plants that grow from the fertile soil.

## LEARNING OBJECTIVES

- Name the three types of decomposers necessary for decomposition.
- Understand decomposers are found throughout the food web at any point when a plant or animal dies.
- Understand that decomposers return nutrients back to the soil.

**Content Learning Objectives***Garden and Food Systems*

**GFS.1.2** Describe a soil web. Identify fungi, bacteria, and invertebrates..

ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

**PK4.VI.B.1** Child observes, investigates, describes, and discusses the characteristics of organisms

**PK4.VI.B.3** Child observes, investigates, describes, and discusses the relationship of organisms in their environments

**K.2 Scientific investigation and reasoning.** The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:

(A) ask questions about organisms, objects, and events observed in the natural world

**K.3 Scientific investigation and reasoning.** The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:

(C) explore that scientists investigate different things in the natural world and use tools to help in their investigations

**1.2 Scientific investigation and reasoning.** The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:

(A) ask questions about organisms, objects, and events observed in the natural world

**1.9 Organisms and environments.** The student knows that the living environment is composed of relationships between organisms and the life cycles that occur. The student is expected to:

(C) gather evidence of interdependence among living organisms such as energy transfer through food chains or animals using plants for shelter

**2.9 Organisms and environments.** The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:

(C) compare the ways living organisms depend on each other and on their environments such as through food chains

HEALTH STANDARD CONNECTIONS

**4-M-3.1:** differentiate between negative and positive behaviors used in conflict situations (e.g., compromise, avoidance, mediation, assertive/aggressive, non-violent behaviors).

*Lesson Sequence*

*Engage*

**Cultivate Curiosity (5–10 mins):**

Gratitude: I am thankful for the many different living things that keep the world turning. Word of the Day: Decomposers! “munch, munch, munch!” (students repeat)

*Explore*

**Root Around (5–10 mins):**

Begin with the Big Question: Does nature create trash? Invite students to Turn and Talk, reminding them to give both partners a time to share and to use the sentence stem, “think that \_\_\_\_\_ because”

Remember to not immediately clarify all misconceptions—allow for all ideas to come to the table and let the lesson clarify. Clear anything up at the end if needed.

*Explain*

**Grow Understanding (5–7 mins):**

- Briefly show the students the Compost Recipe anchor & explain that in order for compost to turn into healthy soil, it needs to have certain ingredients just like a recipe you follow in the kitchen!
- Share that if we add all of the proper ingredients to the compost stew, critters of all sorts will gather to help munch & break down the scraps, turning it into soil over time.
- Show the FBI Examples & share that today they will be hunting for these FBI in our compost.

*Elaborate*

**Observe The Fruits (5–10 mins):**

- Invite students/pairs/groups to explore trays of compost to check to see what ingredients they can find.
- Show them the materials available to them: gloves, magnifying glass, recording sheet if they would like to draw what they find.
- Explain that they will likely not only find plant parts, food scraps, etc., but they will find some living things moving around as well—we call these FBI, or Fungus, Bacteria and invertebrates!
- Invite them to share out as they find critters crawling around & identify them on your FBI Examples anchor chart.
- When they’ve shared all of the FBI they’ve found, mention the remaining FBI they are likely to find in the compost pile at some point.

*Evaluate*

**Reflect (5 mins):**

- Bring the group back together to address the Big Question: Does nature create trash?
- Invite students to pair up and share out.

 ADAPTING FOR INDOORS

- Explore the compost on trays indoors. Mix the compost ingredients in tubs to add more scraps to the garden compost. Talk about healthy compost and the role that decomposers play in our garden.
- Use the visual posters and book listed in ‘additional resources’ to aid discussion.

POSSIBLE EXTENSIONS

- Burlap sack or bucket with holes drilled, and recycled mushroom blocks if available locally to create your own mushroom grow bag/bucket.
- We utilized a community partner to aid in this by donating recycled mushroom blocks from local mushroom farmers and providing information to our staff on how to build the grow bags/buckets.

ADDITIONAL RESOURCES

*Rotten Pumpkin* by David Schwartz

# GARDEN BUGS—FRIEND OR FOE?

Garden

Grades Pre-K–2 • 45 mins • Spring • Outdoor

NEW!

GRADES PRE-K–2 | SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

PEAS • info@peascommunity.org

## ? ESSENTIAL QUESTIONS

- Big Idea: Insects can be beneficial and detrimental to our garden.
- Big Question:
  - 1st Grade (Plant Parts) What parts of a plant need protection from insects?
  - 2nd Grade (Plants have basic needs) How can insects help or hurt plants' survival?
  - Simplify question for Pre-K/K: How many legs does this creature have?



## MATERIALS

- Garden Bug—Friend or Foe Insect Data Sheet (draw in journals or on paper)
- Map of your garden space (you can provide a copy or have students draw a garden map)
- Paper for drawing
- Clipboards
- Magnifying glasses

## Abc VOCABULARY

- Niche/nicho
- Community/comunidad
- Ecosystem/ecosistema
- Environment/medio ambiente
- Interact/interactuar
- Habitat/hábitat
- Adaptations/adaptaciones
- Function/función
- Structures/estructuras
- Flower/flor
- Symbiosis (helpful bugs)/simbiosis
- Parasitic (harmful bugs)/parásito



## ASSESSMENT

- Farm & Food journals for tracking and note-taking (optional)
- Continue asking students: Is that an insect? Why?



CREATED BY  
Cunningham Elementary School  
and Partners for Education in 2022

Emeril Lagasse Foundation retains ownership of these specific lesson plans. Any third-party resources or handouts included are shared solely as examples and we do not claim ownership of them.

## PREPARATION (15 MINS)

- Make copies of the [Garden Bug—Friend or Foe Insect Chart](#) for each student.
- Collect small transplant pots, stickers, sticks, decorative tape, grass, leaves, nuts, and cones.

## TEACHER BACKGROUND

Garden bugs have helpful and harmful relationships and this can be explained through symbiotic (helpful) or parasitic (harmful) interactions. A symbiotic relationship is an interaction between two different organisms that help each other thrive. A parasitic relationship is an interaction where a plant or animal lives or feeds on another type of plant or animal and usually does damage or kills. In the world, there are a total of thirty-eight harmful insects in the Insect Identification database.

## LESSON DESCRIPTION

Bugs are present in every garden and it may take close inspection to find them. Teach your students to turn over rocks, inspect the underside of leaves and to get on their hands and knees to see what's happening in the soil. Many interactions occur in the garden and the students will love to hunt for them.

## LEARNING OBJECTIVES

- The external characteristics of an animal are related to where it lives, how it moves, and what it eats.
- Physical characteristics of plants help them survive in different environments.
- Compare the parts of a plant to its function to see how it is uniquely suited to perform that role.
- An interaction is a relationship between two or more things.
- Each population inside an ecosystem has its own niche or role.

## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

**K.10 Organisms and environments.** The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to:  
(A) sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape

**2.9 Organisms and environments.** The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:  
(C) compare the ways living organisms depend on each other and on their environments such as through food chains.



*Lesson Sequence**Engage***Cultivate Curiosity (5–10 mins):**

- Opening ritual: Gratitude: I am grateful for the bugs that help our garden grow!
- Word of the Day: Insect! “Has six legs!” (students repeat)
- Engage: Introduce BIG QUESTION: Today we are going to be investigating if we want bugs in our garden. Now turn and talk to a shoulder partner and share: are insects good?
- Do not answer the big question, instead, encourage students to share their thoughts and suggest how they might gather information to answer their question.
- Explain that some bugs are helpful to the garden and some harm the plants we want to eat. Show the students examples on the Garden Bug—Friend or Foe Insect Chart.

*Explore***Root Around (5–10 mins):**

- Give students a copy of the [Garden Bug—Friend or Foe Insect Chart](#) (this can go on a clipboard) and the garden map (or have them draw a map of the garden). Tell the children we will be looking for these bugs in our lesson today.
- Divide into two groups. Specialists will work with students to explore the garden and look for bugs that are beneficial or harmful. Teachers will lead the students through the tasks listed below. If one student is having a great time at their station when it is time to switch, it is okay to let them stay there.

*Explain***Grow Understanding (5–7 mins):**

- Explain to the students that the garden is home to these bugs and every bug has a purpose in the garden.
- Discuss which bugs are safe to touch and remind them to be respectful to the bugs and not harm or remove them from the garden.
- Have students plot where they find the bugs on their garden map.

*Elaborate***Observe The Fruits (5–10 mins):**

- Explain to students that there are ways to attract good bugs and prevent pests in the garden.
- Have students share out ideas to attract good bugs and track on paper/white board.
- To attract beneficial bugs: Don’t use pesticides. They kill bad bugs, but also the good ones. Plant perennials and herbs that bloom throughout the growing season to attract bees, butterflies, birds and beneficial insects. Provide water. All living things need water to live and grow.
- To get rid of garden pests: Add compost to the garden. Compost provides nutrients and improves the health of the soil and increases beneficial organisms. The more beneficial bugs that you have in your garden, the less harmful ones will come around.

*Evaluate* **Reflect (5 mins):**

- Make sure everyone has an opportunity to share and repeat all ideas written down, and help to correct any misconceptions students may have had.
- Gather in a circle and give the students one moment to think of one word that describes something they liked about the lesson.

 **ADAPTING FOR INDOORS**

- Create a bug hotel using natural materials (leaves, bamboo, sticks, paper shreds, moss) and re-use plastic nursery pots. Students can fill the inside with materials they think a bug would like to call home, and decorate the outside to customize their project.
- You can talk about including different materials and textures for native bees and other insects that are beneficial to your garden.
- Next time you're in the garden, hang or display your bug hotels for your bug friends!

**POSSIBLE EXTENSIONS**

- After exploring the garden, have the students draw their garden bugs in their Farm & Food journals, count how many legs they have, label bug parts, and add color. They can decide whether they think that bug would help or hurt our plants as they grow.

**ADDITIONAL RESOURCES**

- Print out common insect ID guides, or purchase guides to help students identify what they find in the garden.
- Pre-draw an outlined map of their garden but let them fill in landmarks and color as a possible indoor classroom extension.

**OTHER COMMENTS**

- For younger students, you can practice counting the legs with them. Bringing in toy bugs/insects helps break down some fears about bugs, and makes it easier to count the legs together to decide whether it is an insect or not (six legs).
- We want to be mindful before calling any bugs inherently 'bad' in the garden as we discuss respecting nature and being a part of our garden ecosystem. One way to discuss this further is to reaffirm that when certain bugs are on certain parts of plants, they can be harmful to their growth or survival. We can 're-home' bugs that are harming our edible plants to other parts of the garden to help out.

Grades Pre-K–K • 40 mins • Spring

NEW!

GRADES PRE-K–K

SCHOOL PARTNER  
LESSON PLAN

## ESSENTIAL QUESTIONS

- What are the different ways that seeds can spread and be planted?

## MATERIALS

- Clay
- Compost
- Wildflower seeds
- Water cups
- A tarp for covering the table
- Bowls
- Wooden spoons
- Hand washing station
- Trays to dry the seed balls

## VOCABULARY

- Compost

## ASSESSMENT

- Observation

## PREPARATION

Gather the ingredients for seed balls and measure out the proper amounts per station. For example, if there are 4 groups of students, set up 4 bowls with the “ingredients” for the seed balls pre-measured in correct ratios.

## TEACHER BACKGROUND

The teacher should practice making the seed balls before creating them with the entire class. Seed balls are messy and it’s good to understand the set up and clean up process.

## LESSON DESCRIPTION

Students will review what seeds need to grow, and how they are planted (human planting, dropped by animals, carried by the wind, etc). Then, the students will create their own seed balls using compost, clay, and wildflower seeds, which will be planted around the garden once dry.

## LEARNING OBJECTIVES

- By the end of the lesson, students will be able to understand the concept of seed dispersal and create their own seed balls.

**Content Learning Objectives***Garden Planning and Maintenance*

**GPM.K.1** Describe what lives in a garden and name what it needs to live.

## ACADEMIC STANDARD CONNECTIONS

**K-LS1-1** Use observations to describe patterns of what plants and animals (including humans) need to survive.

*Lesson Sequence**Engage***Cultivate Curiosity:**

Ask questions to check their prior knowledge about seeds, such as “What do seeds need to grow?” and “How do seeds get planted?”

*Explore***Root Around:**

Show the students a sample seed ball or use visuals to demonstrate what a seed ball looks like. Explain that seed balls are a fun and effective way to help plants grow in different areas.

*Explain***Grow Understanding:**

Divide the class into small groups. Provide each group with a mixing bowl, pre-measured clay and compost, and water. Instruct the students to mix 1 part clay, 3 parts compost or soil, and a little water to form a workable dough-like consistency. Encourage the students to knead the mixture thoroughly until it is well combined. Have the students take a small portion of the mixture and flatten it on their palm. Place a few seeds in the center of the flattened clay mixture. Show them how to fold the clay mixture around the seeds and roll it into a ball. Repeat the process to make multiple seed balls.

*Elaborate***Observe the Fruits:**

Discuss the importance of seed balls in helping plants grow and spread. Ask the students to share their thoughts on the activity and what they learned about seeds and planting. Congratulate them on their efforts and encourage them to observe and care for their seed balls as they dry.

*Evaluate***Reflect:**

Encourage students to journal or draw about their seed ballmaking experience.



## ADAPTING FOR INDOORS

This lesson can be conducted indoors or outdoors.




CREATED BY  
DC Bilingual in 2023

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# WEATHER VS. CLIMATE

Garden

Grades Pre-K–2 • 45 mins

Fall, Winter, Spring, Summer • Indoor and Outdoor 

NEW!

GRADES PRE-K–2

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

PEAS • info@peascommunity.org

## ESSENTIAL QUESTIONS

- Big Idea: Weather and climate affects the kinds of plants farmers can grow.
- Big Question: Can any plants grow right now in Texas?

## MATERIALS

- Large print climate zone map
- Weather tools: rain gauge, large student-friendly thermometer, soil thermometer
- Clothes or pictures of clothes for different climates
- Pictures of native plants and animals for different locations
- Seed packets with climate map on the back and clues for seasons (F= Fall/S=Spring etc)
- Basic garden tools

## VOCABULARY

- Air/aire
- Calm/calma
- Clear/despejado
- Cloudy/nublado
- Cold/frío
- Hot/caliente
- Icy/helado
- Mild/templado
- Rainy/lluvioso
- Temperature/temperatura
- Thermometer/termómetro
- Weather/tiempo
- Windy/viento

## ASSESSMENT

- Farm & Food journals for tracking and note-taking (optional)

## PREPARATION (15 MINS)

Weather is what we experience on a daily basis. It helps us decide what we should wear for the day or what to bring on an upcoming getaway in the next week. Weather is a prediction based on a variety of data collected in a variety of ways from ground stations to radars and weather maps are created to help us understand what to expect based on the evidence compiled by meteorologists. Weather includes sunshine, rain, cloud cover, winds, hail, snow, sleet, freezing rain, flooding, blizzards, ice storms, thunderstorms, steady rains from a cold front or warm front, excessive heat, heat waves and more. By collecting meteorological data, like air temperature, pressure, humidity, solar radiation, wind speeds and direction etc.

## TEACHER BACKGROUND

- Meteorologists take real-time measurements of atmospheric pressure, temperature, wind speed and direction, humidity, precipitation, cloud cover, and other variables. Weather is the day-to-day state of the atmosphere, and its short-term (minutes to weeks) variation.
- Climate on the other hand allows us to see long term patterns in weather data collected over time. \*Note: Time in relation to climate is usually no less than thirty years. Climate can tell us many things from seasonal information and planting zones to increases in global temperatures or carbon dioxide.

## LESSON DESCRIPTION

- Students will identify how weather and climate affect our plants.
- Students will also discover which plants they can grow in their micro-climate and weather/season.

## LEARNING OBJECTIVES

- Know that weather occurs over a short period of time & can be observed
- Identify how temperature changes and precipitation cause changes in growth and behavior of plants
- Identify which seeds to appropriately plant for the current weather/season

**Content Learning Objectives**

*Weather and Season, Climate and Geography*

**WSCG.1.2** Describe what foods grow nearby and what foods come from other places.

**Life Skills Learning Objectives**

*Personal Life Skills*

**PLS.4** Students are active and engaged learners who show up on time prepared to learn and manage their time wisely.

*Community Life Skills*

**CLS.2** Students cooperate and communicate well with each other.

## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

**K.2 Scientific investigation and reasoning.** The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:

- (A) ask questions about organisms, objects, and events observed in the natural world
- (C) collect data and make observations using simple tools

**K.3 Scientific investigation and reasoning.** The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:

- (B) make predictions based on observable patterns in nature
- (C) explore that scientists investigate different things in the natural world and use tools to help in their investigations

**K.8 Earth and space.** The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:

- (A) observe and describe weather changes from day to day and over seasons
- (B) identify events that have repeating patterns, including seasons of the year and day and night

**1.2 Scientific investigation and reasoning.** The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:

- (A) ask questions about organisms, objects, and events observed in the natural world
- (C) collect data and make observations using simple tools

**1.8 Earth and space.** The student knows that the natural world includes the air around us and objects in the sky. The student is expected to:

- (A) record weather information, including relative temperature such as hot or cold, clear or cloudy, calm or windy, and rainy or icy
- (C) identify characteristics of the seasons of the year and day and night

**2.2 Scientific investigation and reasoning.** The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:

- (C) collect data from observations using scientific tools

**2.8 Earth and space.** The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:

- (A) measure, record, and graph weather information, including temperature, wind conditions, precipitation, and cloud coverage, in order to identify patterns in the data
- (B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation

*Lesson Sequence**Engage***Cultivate Curiosity(5–10 mins):**

- Opening ritual: Gratitude: I'm grateful the weather changes!
- Word of the Day: Weather! "What we see!" (students repeat)
- Introduce the Big Question: Can any plant grow right now in Texas?
- Invite students to Turn and Talk, reminding them to give both partners a time to share & to use the sentence stem, "think that \_\_\_\_\_ because"
- Bring the class back together to share out—option to have students share what their partner said here.
- Remember to not immediately clarify all misconceptions—allow for all ideas to come to the table and let the lesson clarify. Clear anything up at the end if needed.

*Explore***Root Around (5–10 mins):**

- With you, students will examine seed packets to determine what type of weather they like to grow in.
- Remember to reference the big question often by asking probing questions, such as "Would this seed like to be planted in the weather we are having today? How do you know?/What on the seed packet tells you that?"
- \*Seed packets may need to be adapted to support success.
- Optional: Have students physically touch the place on the map that the seeds would like to be planted.
- Reference the Texas seasonal map

*Explain***Grow Understanding (5–7 mins):**

- Show the map & ask students—Would you prefer to live where it is mostly cold with snow like Alaska, or mostly warm with no snow and lots of rain like Puerto Rico?
- Share that plants also have preferences about weather—some plants prefer to grow during warmer seasons, while others are just fine growing in the cold!
- We are going to explore what kind of plants we can plant in Texas during our fall weather & see what the plants already in our garden might need!
- Once you've explored the seed packets & found seeds that like the weather in Texas right now, plant those seeds in the garden.



*Elaborate* **Observe The Fruits (5–10 mins):**

- With their teacher, students will practice the skills they have learned such as watering, weeding, etc.
- Students can check on plants to determine if they need help growing—should they be watered? Are they too close to their neighbors? Are there any bugs nearby that may be harming the plant?
- The teacher may guide students with the weather tools—student-friendly thermometer, soil thermometer, rain gauge, etc.
- Optional: Students may use their farm & food journal to track what they would like to add or grow in their school garden in the coming seasons.

*Evaluate* **Reflect (5 mins):**

- Bring the group back together to address the Big Question: Can all plants grow right now in Texas?
- Invite students to Turn & Talk (with a new partner?), reminding them to allow both partners to share equally & using the sentence stem.
- Support student conversations as needed & offer time for all to share out their ideas.
- If any misconceptions arise, invite other students to share their ideas in response to each other before immediately correcting them.

**ADAPTING FOR INDOORS**

This activity can be easily adapted for indoor learning. Exclude the weather tools for indoor learning, and rather than planting seeds you can create 'seed tape' to plant in the garden the next time you can go outside. Look up how to make seed tape with paper strips, a squirt bottle, and some rulers to measure out the proper seed spacing.

**CONNECTIONS TO KITCHEN LESSONS**

Could connect to cooking what is currently in season in the garden or what the garden has an abundance of.

**POSSIBLE EXTENSIONS**

- With their teacher, students will practice the skills they have learned such as watering, weeding, etc.
- Students can check on plants to determine if they need help growing—should they be watered? Are they too close to their neighbors? Are there any bugs nearby that may be harming the plant?
- The teacher may guide students with the weather tools—student-friendly thermometer, soil thermometer, rain gauge, etc.

**ADDITIONAL RESOURCES**

- Texas Ag Planting Guide or your regional planting guide
- A map of your local watershed and rainfall totals

# WELCOME TO THE GARDEN

Garden

Grades PreK–K • 35 mins  
Fall, Winter, Spring, Summer • Outdoor

ADAPTED

GRADES PRE-K–K

SCHOOL PARTNER  
LESSON PLAN

## SUBMITTED BY

Lola Bloom • lbloom@dcbilingual.org



## ESSENTIAL QUESTIONS

- How do we care for our community in the garden?



## MATERIALS

- Garden scavenger hunt list (print outs)
- Clipboards
- Pencils
- Chart paper
- Bell



## ASSESSMENT

- Student Work

## PREPARATION

Make sure that the garden is clear of debris and there are sufficient dry seating areas for the students. Bring clipboards and scavenger hunt outside.

## TEACHER BACKGROUND

Prepare yourself to be calm and centered and guide learning while children are present. Sometimes when students get very activated in a garden space, it can raise tension and anxiety for the teacher. Have a call and response ready to practice with the children. Stretch legs to be ready to squat down and get on eye level with children to speak and listen. Try doing the scavenger hunt by yourself to provide an example for students.

## LESSON DESCRIPTION

This is a lesson to set expectations for how we treat each other and the space of the garden.

## LEARNING OBJECTIVES

### Life Skills Learning Objectives

#### *Personal Life Skills*

**PLS.2** Students are able to express empathy and caring for themselves, others, and the environment.

### NOTE:

Adapted from **Grade K Garden Lesson #1: Welcome to the Garden**, pg 415.



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*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Welcome to the garden! Students will find a seat and learn the teacher's name, and then the teacher will ask everyone to touch their ears. "How do we use our ears in the garden?"

*Explore***Root Around (10 mins):**

- We are going to practice listening to sounds in the garden. What do you hear?
- Teacher will ring the bell/chime
- Do you hear that sound? Whenever you hear the chime sound, I want you all to come back to work with me. Let's practice. I want you to walk to a space in the garden where you find a (fill in the blank).
- Ring the chime and have the students come back to the teacher
- Practice 2–3 times

*Explain***Grow Understanding (10 mins):**

Now that you see how we can use our ears to work as a team, I want you to use your eyes. Part of respecting the garden is observing and exploring with our eyes, without picking or breaking something or smushing it with our feet. Each one of you will get a pencil and scavenger hunt paper. You will look for these things in the garden and check them off when you find them. In the last square, I want you to draw something new that is not on this list. If you have trouble, we can ask a friend or you can come to me. When you are finished, you can return your paper to the table.

*Elaborate***Observe The Fruits (15 mins):**

While the students are exploring the garden, narrate the positive actions that you observe students doing in the space. Correct students if they are exploring the garden in a way that could cause harm.

*Evaluate***Reflect (5 mins):**

Ring the bell so that students come back to the learning area. Ask, "What were some of the ways we took care in the garden today? How did we listen to the garden and to each other?" Listen to/engage with students' answers.

**ADAPTING FOR INDOORS**

A similar scavenger hunt could be done with cooking tools in the kitchen. Lock cabinets and drawers that should not be opened.

# COMPOST AND BIODEGRADABILITY

Garden

## TIME AND LENGTH

45 min

ADAPTED

GRADES K–5

SCHOOL PARTNER  
LESSON PLAN

## LOCATION

Garden

## ? ESSENTIAL QUESTIONS

- Is soil living?
- What lives in the soil & how do they work together to help our garden?

## MATERIALS

- “What does it mean to recycle?” items
  - Food scraps, recyclable/donatable items (soup cans, paper, etc./pair of shoes, t-shirt, etc.) and non-recyclable items (chip bag, plastic wrap, etc.)
- Healthy Compost Layers organizer Handout
- FBI sheet
- Colored pencils
- Worm bins
- Compost
- Lint
- Food scraps
- Leaves, paper scraps, etc.
- Clear tennis ball containers (1 per class)
- C/N Ratio Poster
- ebook
- Magnifying glasses
- Bug catchers
- Pruners
- Gloves/tweezers
- Trays
- Shovels/Forks
- “Compost Critters” ID page Handout—laminated/sheet protected
- *Compost Stew: An A to Z Recipe for the Earth* by Mary McKenna Siddals
- 5 gal bucket (if you don’t have a compost bin at your school)
- 5 gal bucket of greens
- 5 gal bucket of browns

### NOTE:

Adapted from **Grade 1 Garden Lesson #5: Soil Web**, pg 428.

**Abc** VOCABULARY

- Nitrogen/el nitrógeno
- Carbon/el carbón
- Compost/el abono orgánico
- Decomposition/la descomposición
- Soil/el suelo
- Fungi/los hongos
- Bacteria/la bacteria
- Invertebrate/el invertebrado

## TEACHER BACKGROUND

The process of decomposition of a healthy compost pile can be hard for students to see in a single observation, but with a close look, evidence can be found; particularly when students are invited to actively participate in building out the proper layers of the compost as well as investigating for signs of specific decomposers.

## LESSON DESCRIPTION

In this lesson, students will explore the idea that not everything in the garden is growing, some things are breaking down to let others grow. They will learn how to build a healthy compost pile through hands-on activities.

## LEARNING OBJECTIVES

- Students will know that healthy soil allows for healthy plants.
- Students will know that recycling organic matter in compost is a good way to return nutrients to the garden.
- Students will know how to construct a healthy compost pile.
- Students will know the role of FBI as decomposers of organic matter.

**Content Learning Objectives***Garden Planning and Maintenance*

**GPM.1.2** Demonstrate knowledge of what plants need.

*Soil*

**S.2.3** Balance carbon (browns) and nitrogen (greens) in compost.

## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

- K.7 Earth and space.** The student knows that the natural world includes earth materials. The student is expected to:
- (C) give examples of ways rocks, soil, and water are useful.
- 1.7 Earth and space.** The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems. The student is expected to:
- (A) observe, compare, describe, and sort components of soil by size, texture, and color;
  - (C) identify how rocks, soil, and water are used to make products
- 2.1 Scientific investigation and reasoning.** The student conducts classroom and outdoor investigations following home and school safety procedures. The student is expected to:
- (B) identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal
- 2.9 Organisms and environments.** The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:
- (A) identify the basic needs of plants and animals
- 3.7 Earth and space.** The student knows that Earth consists of natural resources and its surface is constantly changing. The student is expected to:
- (A) explore and record how soils are formed by weathering of rock and the decomposition of plant and animal remains
- 4.7 Earth and space.** The students know that Earth consists of useful resources and its surface is constantly changing. The student is expected to:
- (A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants
  - (C) identify and classify Earth’s renewable resources, including air, plants, water, and animals, and nonrenewable resources, including coal, oil, and natural gas, and the importance of conservation
- 4.9 Organisms and environments.** The student knows and understands that living organisms within an ecosystem interact with one another and with their environment. The student is expected to:
- (A) investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food
- 5.9 Organisms and environments.** The student knows that there are relationships, systems, and cycles within environments. The student is expected to:
- (A) observe the way organisms live and survive in their ecosystem by interacting with the living and nonliving components
  - (B) describe the flow of energy within a food web, including the roles of the Sun, producers, consumers, and decomposers

## Lesson Sequence

## Engage

**Cultivate Curiosity (5 mins):**

- What does it mean to recycle?
  - Ask students to turn to their shoulder partner to discuss what it means to recycle. Provide ample time for discussion as you move about the space to listen & support conversation as needed.
  - After, ask students to share out what their partner said.

## Explore

**Root Around (6 mins):**

- In groups/as a whole class separate various items (suggestions listed in Materials section) into groups.
  - Ask the students to think about what it means to recycle when grouping the items. Allow students to create their own groupings
  - Ask students to share out about why they categorized as they did
  - Discuss the importance of recycling in their homes, as well as in the garden—recycling organic matter returns nutrients to the soil
  - Healthy soil! Healthy plants!

## Explain

**Grow Understanding (7 mins):****For younger grades**

- Read *Compost Stew: An A to Z Recipe for the Earth* by Mary McKenna Siddals

**For older grades**

- When we compost, we are feeding small critters that create healthy soil.
- When we have healthy soil, we have healthy plants!
  - To create a healthy compost pile you only need four things:
    - Carbon organic material (Brown materials)
    - Nitrogen organic material (Green materials)
    - Water
    - Oxygen
- Use the anchor chart to show the proper way to stack “browns” & “greens”.
  - Demonstrate the appropriate ratio using a clear container—layering as you explain
  - Brown materials are carbon or carbohydrate-rich & they are the food sources for all the organisms that work with microbes to break down the organic material
    - Fall leaves, pine needles, twigs, chipped tree branches, bark, straw, hay, sawdust, corn stalks, paper, dryer lint, cotton fabric, corrugated cardboard
  - Green materials are rich in nitrogen or protein that tend to heat the compost up
    - Grass clippings, coffee grounds, tea bags, veggie & fruit scraps, plant trimmings, annual weeds (w/o seed heads & no Bermuda grass because the seed is held within the rhizome), eggshells. When tilled into the **soil**, ground **eggshells** provide your plants with calcium. Calcium is also essential for building healthy “bones”—the cell walls of a plant.

- Briefly Explain that a proper compost pile is a great home to decomposers, or Garden FBI (Fungus, Bacteria, Invertebrates)! (critters were the focus of last year’s compost lesson, so this just needs to be touched on)
  - Bacteria do most of the work, even though they are invisible to the naked eye.
  - Other animals large enough to see, such as beetles, worms, centipedes, millipedes, and sow bugs, are also important decomposers.
  - Without decomposers all life would stop because new plants would not have the necessary nutrients needed to grow. Decomposers turn our garbage into plant food!

*Elaborate* **Observe the Fruits (20 mins):**

- Building compost—you can have each class do all three jobs, or have grade levels/classes do one job each
  - Chop (6 inches in size or less)
  - Add greens/browns
  - Mix/Turn
  - Water (as wet as a wrung out sponge)
- As you build, keep an eye out for critters in the compost!
- If you don’t have a compost bin at your school, you can create—“Compost in a Bucket”— This is the same process, however you want to cover the top with about a gallon of soil, compost or potting mix so it doesn’t turn rancid.

*Evaluate* **Reflect (7 mins):**

Fill in Healthy Compost Layers sheet

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POSSIBLE EXTENSIONS


Read aloud: *Diary of a Worm* by Doreen Cronin



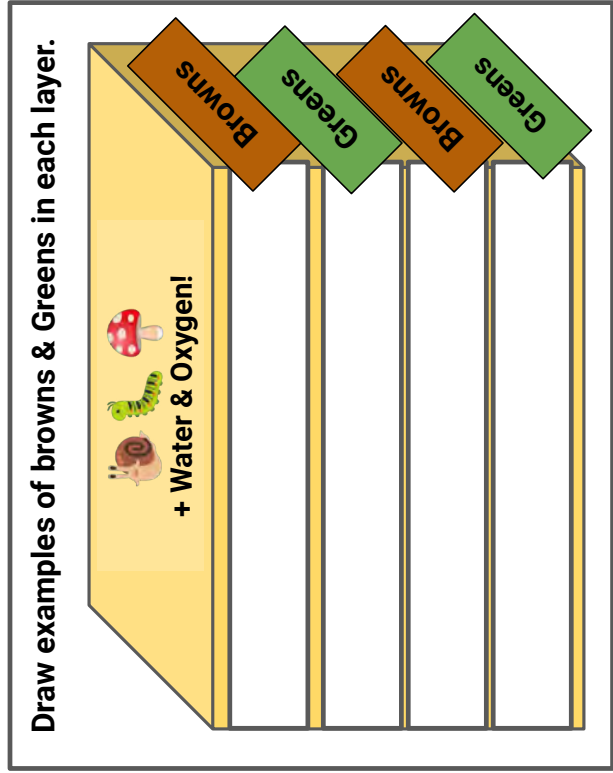
## Healthy Compost Layers

Draw examples of browns & Greens in each layer.


**Greens**



- Plant Clippings
- Fruit & Veggie Scraps
- Coffee Grounds
- Tea Bags
- Eggshells
- Manure

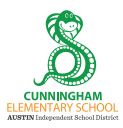


**Browns**



- Tree Twigs
- Dry Leaves
- Cardboard
- Paper
- Dryer Lint
- Straw/Hay
- Sawdust

**PEAS**  
PARTNERS FOR EDUCATION,  
AGRICULTURE & SUSTAINABILITY



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# COMPOST CRITTERS WORKSHEET

Circle Me If You Can Find Me



collanbola



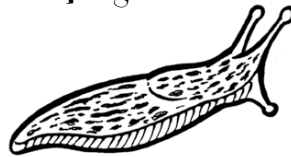
springtail



mite



sow bug



slug



worm cocoon



fruit fly



white worms



beetle



redworm



spider



snail



mold



ant



centipede



bacteria



millipede



pill bug

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Source: [Compost Critters Worksheet](#)




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# LIVING OR NON-LIVING

## VIVOS O NON VIVOS

Garden

Kindergarten • 30 mins • Fall 

ADAPTED

GRADE K

SCHOOL PARTNER  
LESSON PLAN

### ESSENTIAL QUESTIONS

- How can we tell the difference between living things and nonliving things in the garden?
- How can we tell the difference between plants and animals in the garden?

### MATERIALS

- Egg cartons OR charts
- Clipboards
- Pencils

### VOCABULARY

- Living
- Non Living
- Plants
- Animals
- Soil

### ASSESSMENT

Students will accurately identify the 6 plant parts and describe their function.

### PREPARATION (15 MINUTES)

The teacher will need to check the garden to make sure that there are a variety of living and non-living items in various areas of the garden.

### TEACHER BACKGROUND

Be familiar with where examples of living and non living things are in the garden.

### LESSON DESCRIPTION

Students will demonstrate their understanding of living and non-living organisms in a natural environment.

#### NOTE:

- Adapted from **Grade K, Garden Lesson #5: Living or Nonliving**, pg 421; **Scope and Sequence**, pg 98.
- This lesson was designed to go along with DC Bilingual's Science Scope and Sequence. Science is taught in Spanish at DC Bilingual. The school views these lessons as a way to reinforce science standards in the garden.



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## LEARNING OBJECTIVES

**Content Learning Objectives***Garden Planning and Maintenance***GPM.K.1** Describe what lives in a garden and name what it needs to live.*Garden Tools and Equipment***GTE.K.1-4** Garden Tools and Equipment

## ACADEMIC STANDARD CONNECTIONS

**NGSS.K.LS1.C Organization for Matter and Energy Flow in Organisms**

All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Bring students outside to the seating circle. Ask the group to name some examples of living things that they can see nearby. What are the things that are NOT living?

*Explore***Root Around (10 mins):**

Provide groups of students (3–4 students each) with an egg carton. Instruct the students to find items to fill one side that are from living things, and to fill the opposite side with non-living things. Demonstrate how to collect responsibly in the garden. Start by having one student demonstrate how to collect an item in front of the class.

*Explain***Grow Understanding (5 mins):**

When the students return to the seating circle, invite students to share their findings

*Elaborate***Observe the Fruits (10 mins):**

Students will draw a picture of one living thing and one non-living thing that they found.

*Evaluate***Reflect:**

What is an example of a living thing we did NOT find in the garden today?  
How about a non-living thing?



## ADAPTATIONS

Collect a variety of materials (non-living and living) and encourage students to group them based on different descriptors, i.e. colorful vs non colorful; edible vs non edible, smelly vs non smelly.

# WEATHER STATION CREATION

Garden

## TIME AND LENGTH

45 min

ADAPTED

GRADES K–5

SCHOOL PARTNER  
LESSON PLAN

## LOCATION

Garden



## ESSENTIAL QUESTIONS

- Why do we plant the seeds and plants we do?
- How does weather data help guide us as farmers & gardeners?



## MATERIALS

- 4 good anemometers
- 4 thermometers that are little-kid friendly
- 4 3-in-1 soil ph/temp deals
- Hourglass timer
- 4 trays
- Seeds in small plastic pots of soil (2 dry and the other 2 watered really well)
- Earth/Sun Model
- Weather Station Creation Water Cycle Handout (can be optional)
- Anchor charts (“Weather and Seasons in Austin Anchor Chart K–2 Handout” or “Weather and Seasons in Austin Anchor Chart 3–5 Handout”)
- Twine (daily box)
- Tent stakes (daily box)
- Magnifying glasses (daily box) Not needed if teachers are leading weather tools
- Clipboards (daily box)
- Paper (daily box) Not needed if teachers are leading weather tools
- Pencils (daily box)
- “Weather/Season/Plants Background Handout”

## NOTE:

Adapted from **Grade 2 Garden Lesson #8: Weather Station Creation**, pg 137.

**Abc** VOCABULARY

- Anemometer
- Thermometer
- Rain gauge
- Soil
- Transect line

## TEACHER BACKGROUND

See Weather/Seasons/Plants Background handout at the end of lesson.

## LESSON DESCRIPTION

In this lesson students will learn the importance of observing & recording weather data in order to guide our behaviors in the garden. Students will learn how to use the tools necessary to create a weather station.

## LEARNING OBJECTIVES

- Students will understand that certain plants are planted at certain seasons and in certain regions. Gardeners have to be aware of weather and how changes in weather will affect the garden.

## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

**1.8 Earth and space.** The student knows that the natural world includes the air around us and objects in the sky.

The student is expected to:

- (A) record weather information, including relative temperature such as hot or cold, clear or cloudy, calm or windy, and rainy or icy
- (D) demonstrate that air is all around us and observe that wind is moving air

**2.8 Earth and space.** The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:

- (A) measure, record, and graph weather information, including temperature, wind conditions, precipitation, and cloud coverage, in order to identify patterns in the data
- (B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation

**3.8 Earth and space.** The student knows there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:

- (A) observe, measure, record, and compare day-to-day weather changes in different locations at the same time that include air temperature, wind direction, and precipitation

**4.8 Earth and space.** The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:

(C) collect and analyze data to identify sequences and predict patterns of change in shadows, seasons, and the observable appearance of the Moon over time

**5.8 Earth and space.** The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:

(A) differentiate between weather and climate

#### HEALTH STANDARD CONNECTIONS

#### Texas Essential Knowledge and Skills (TEKS) for Health Education, Elementary, Revised 2022

**1.2 Physical health and hygiene—personal health and hygiene.** The student understands health literacy, preventative health behaviors, and how to access and evaluate health care information to make informed decisions. The student is expected to:

(B) describe personal hygiene and health habits that enhance individual health such as personal hygiene, oral hygiene, and getting enough sleep

**3.2 Physical health and hygiene—personal health and hygiene.** The student understands health literacy, preventative health behaviors, and how to access and evaluate health care information to make informed decisions. The student is expected to:

(A) explain the importance of seeking assistance in making decisions about health

(B) describe methods of accessing information about health

(C) identify the benefits of decision making about personal health

(D) identify the importance of taking personal responsibility for developing and maintaining personal hygiene and health habits

#### 3.11(B) gather data to help make informed health choices

### Lesson Sequence

#### Engage

#### Cultivate Curiosity:

- Present two or more plant starts (or pots with soil in them) at varying degrees of dampness.
  1. Help students take turns feeling the dry soil and the wet soil with their fingers.
  2. Prompt students to pair-share as they describe the soil.
- Ask:
  - How does the soil feel?
  - How does the soil look?
  - What would it mean if the soil felt squishy or muddy? (Too much water.)

*Explore***Root Around:**

- Ask students to think about how the weather affected the way the soil might have felt? If the soil was dry, what kind of weather might we have had? If the soil was wet, what kind of weather might we have had? What is the weather this week? Will the weather be the same in December? Will it be the same in the spring? No! Weather is different during different seasons.
- Show students the anchor chart (“Weather and Seasons in Austin Anchor Chart K–2” or “Weather and Seasons in Austin Anchor Chart 3–5”) and fill in JUST THE INFORMATION FOR SUMMER. See Weather Station Creation PEAS for handout. This is based on what students can remember about the summer. Was it rainy? Hot? Cold? Cloudy? Windy? Was it dark in the afternoon, or light? Does it feel the same now that it did in summer? Why not?
- **Grades Pre-K–2:** Use the more seasons anchor chart and discuss seasons. Finish with the season we are in right now.

*Explain***Grow Understanding:**

- Seasons are caused by the amount of direct sun the earth gets as it revolves around the sun. Show students the model (ordered). In summer, the earth is tilted towards the sun, and we get lots of hours of sunlight! It gets very hot! In fall, we are not tilted towards or away from the sun, and so we get some days that are warm and some days that are cooler. Some plants can grow in colder temperatures and others can tolerate a lot of heat. ( Farmers and gardeners are guided by seasons and weather to determine when to plant and harvest fruits and vegetables.)
- What was the weather like in summer? After debriefing summer, ask if it is a good time to plant vegetables? Fill in the typical weather for fall and tell students we are going to measure the weather to see what the fall weather is like in our garden.

*Elaborate***Observe the Fruits:**

- Today we will investigate how the fall weather has affected our garden, and plant some plants in our garden that will do well in the fall and winter weather. We are also going to explore our garden to find out how the weather is affecting the soil that plants grow in. Gardeners have to know what the conditions are in the garden to know what we have to do to take care of our plants. We also plant certain plants at certain times of the year.
- **Grades Pre-K–2:** Omit the 3-in-1 soil ph/temp tool. Outdoor Education Specialist can record on the laminated line transect data sheet.
- **Grades 3–5:** Complete the transect line in one of the garden beds with the weather station tools. Students can record on their own data sheet.



*Evaluate* **Reflect:**

- **Grades Pre-K–2:** How is our garden doing? Was there enough moisture in the soil? What's the weather song...?
- **Grades 3–5:** In northern climates where it is cold in the winter, many farmers do not farm in the winter because it is just too cold for many plants to grow. In Texas, farms try to find crops that do not need as much water in the summer or they have to use a lot of irrigation to keep things alive because we do not get enough rain to support the plant life. Who can tell me what irrigation means?
  - How is the garden doing? Do we need to change anything? Did what we plant go along with the seasons? (root vegetables, squash, carrots?)
  - Why did we plant the plants we planted? Why did we plant carrot seeds? Radish seeds?
  - How does the weather and seasons affect our planting?
  - How do we know if the outdoor space is getting enough/too much rain?
  - Bring it back to their garden space.

## ADAPTATIONS

Students will plant seasonally appropriate seeds with their teacher. Students can use magnifying glasses to observe soil. Students can check on and measure the height of plants (see [“Tracking Garden Changes—Plant Growth” handout](#)). Students can draw a picture of the weather in the outdoor space today, listing things that are different from previous lessons (evidence of fall).


## POSSIBLE EXTENSIONS

Students could create a weather station at multiple locations on the school campus to collect more extensive data.

## ADDITIONAL RESOURCES

[Texas A&M Ag Extension Planting Guide](#)

Grades K-2



Weather  
Temperature  
Plants

## WEATHER and SEASONS

Weather  
Temperature  
Types of plants

Weather  
Temperature  
Types of plants

Weather  
Temperature  
Types of plants



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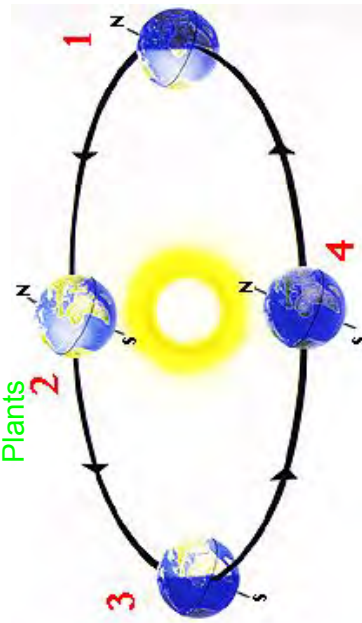
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Grades 3-5

# WEATHER and SEASONS




Weather  
Temperature  
Plants




Weather  
Temperature  
Types of plants

Weather  
Temperature  
Types of plants

Weather  
Temperature  
Types of plants



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PARTNERS FOR EDUCATION,  
AGRICULTURE & SUSTAINABILITY

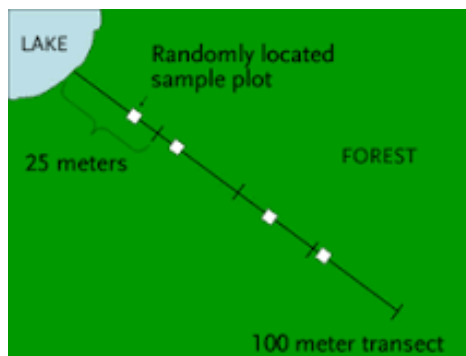
**WEATHER/SEASONS/PLANTS BACKGROUND**

**Soil Sampling Tasks**

**Make a line transect** A tape or string laid along the ground in a straight **line** between two poles as a guide to a sampling method used to measure the distribution of organisms. Sampling is rigorously confined to organisms that are actually touching the **line**.

Every 3 feet in the garden bed measure wetness, temp., air temp.

For upper grades- when a plant freezes it affects the water in the cell walls.



**What is Ph?-** PH is potential hydrogen- used to rank the basicity or acidity of substances based on the amount of hydrogen ion activity in a substance. Visit - <https://www.sunset.com/garden/garden-basics/acid-alkaline-soil-modifying-ph>

**How to Use a 3-In-1 Soil Tester**

Use a 3-in-1 soil tester to tailor the optimal conditions for your garden.  
Signs of a Low pH in Plants



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A 3-in-1 soil tester is a metal pronged instrument that is inserted into the soil to test soil pH, light intensity, and moisture levels. A soil tester takes some of the guesswork out of where and how to plant your flowers, shrubs or trees. You can use the tester to determine the current levels of the soil, and alter them according to the specific needs of the plants you wish to place there. Plant grasses, shrubs, flowers or trees that need similar conditions together in one area, with those needing different conditions in a separate area of the yard or garden.

**1**

Clean the prongs of the tester with distilled water and a clean cloth before use, and between uses. This will keep the readings from being affected by the pH of a previous test or tap water.

**2**

Insert the prongs into the soil you wish to measure. The first reading that appears will be a pH, which is measured on a scale from 1 to 14, with 1 being the most acidic and 14 being the most alkaline. Seven is a neutral pH. Most plants will grow in a pH between 6 and 7.5. The soil tester measures pH levels from 3.5 to 8. Alter soil pH by adding limestone to raise it, or sulfur to lower it.

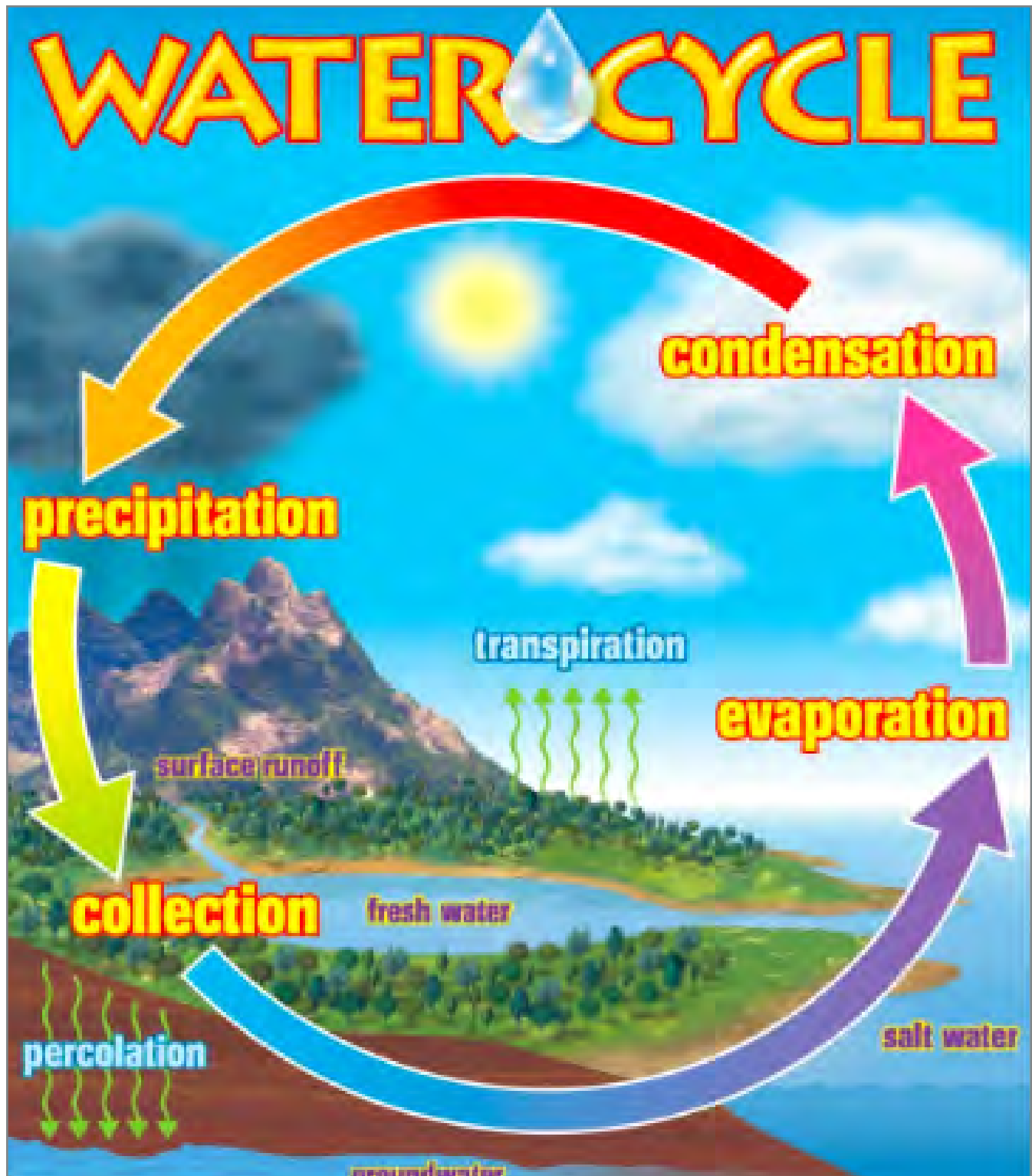
**3**

Press the button on the tester to view the moisture readings. The tester measures the percentage of moisture content in 10 percent increments, from no moisture to complete saturation. Most plants will want moist soil in the mid-range. Sand can be added to soil to increase drainage capabilities for excessively wet soil.

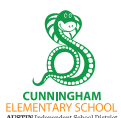
**4**

Press the button on the tester again to view the light readings. Light readings measure light intensity in foot-candles from 0 to 2,000. For reference, average indoor home lighting is around 100 foot-candles. Plants requiring full sun can be planted in the upper light ranges, and plants requiring shade can be planted in the lower light areas.

Believe it or not, foot candles are the most common unit of measure used by lighting professionals to calculate light levels in businesses and outdoor spaces. In a nutshell, a foot candle is a measurement of light intensity and is defined as the illuminance on a one-square foot surface from a uniform source of light.



Source: [Water Cycle Poster](#)



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# WELCOME TO THE GARDEN

Garden

## TIME AND LENGTH

45 min

## LOCATION

Garden

NEW!

GRADES K–5 | SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

- How can I be my best self in the garden?
- How can I be my best for my community?
- How can I be my best for my environment?
- What types of energy do we encounter in the garden?
- How does energy move through the garden?

## MATERIALS

- Carrot and radish seeds
- Hand trowels
- Watering cans
- Popsicle sticks (for seeds markers and plant markers)
- Energy anchor chart
- Tarp
- Broken tool
- PEAS Garden Expectations Handout
- Name tags (bring extras)
- Dry erase marker
- Clip boards
- Manila paper

**Abc** VOCABULARY

- Energy/energía
- Forms/formas
- Heat energy/energía térmica
- Radiant energy/energía luminosa
- Sound energy/energía del sonido
- Mechanical energy/energía mecànica
- Conservation of energy/conservación de energía
- Seed/semilla
- Respect/respeto
- Community/comunidad
- Walk/camina
- Run/corre
- Slow/despacio

## TEACHER BACKGROUND

- [10 Types of Energy](#)
- [Types of Energy Video](#)
- [Energy Transformations Video, Explanation, Game and Engage: Ready for an Energy Makeover?](#)

## LESSON DESCRIPTION

In this lesson, students will explore what energies can be found in the garden space—including themselves! They will then discuss how to be the best for themselves, their community, and their environment in this garden space. The teacher will guide them to cohesive language around these understandings before modeling behaviors that align with these understandings. Finally, students will explore, plant and enjoy the garden while practicing these behaviors and types of energy we focused on.

## LEARNING OBJECTIVES

- Explore ways in which we use energy in everyday life.
- Trace changes in energy as it transforms from one form into another.
- Learn how the energy we use affects our green space (planting, watering, pulling weeds, etc.).
- Develop a sense of community and ownership.



## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

**K.6 Force, motion, and energy.** The student knows that energy, force, and motion are related and are a part of their everyday life. The student is expected to:

(A) use the senses to explore different forms of energy such as light, thermal, and sound

**1.6 Force, motion, and energy.** The student knows that force, motion, and energy are related and are a part of everyday life. The student is expected to:

(A) identify and discuss how different forms of energy such as light, thermal, and sound are important to everyday life

**3.6 Force, motion, and energy.** The student knows that forces cause change and that energy exists in many forms. The student is expected to:

(A) explore different forms of energy, including mechanical, light, sound, and thermal in everyday life

**5.6 Force, motion, and energy.** The student knows that energy occurs in many forms and can be observed in cycles, patterns, and systems. The student is expected to:

(A) explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy

## HEALTH STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Health Education, Elementary, Adopted 2022**

**K.6 Healthy eating and physical activity—food and beverage daily recommendations.** The student identifies and explains healthy eating strategies for enhancing and maintaining personal health throughout the lifespan. The student is expected to:

(C) identify types of foods that help the body grow, including fruits and vegetables, dairy, and protein

(D) identify healthy and unhealthy snack choices.

**1.9 Injury and violence prevention and safety—safety skills and unintentional injury.** The student identifies and demonstrates safety and first aid knowledge to prevent and treat injuries. The student is expected to:

(B) identify the purpose and demonstrate proper use of protective equipment such as seat belts, booster seats, and bicycle helmets.

**1.3 Mental health and wellness—social and emotional health.** The student identifies and applies strategies to develop socio-emotional health, self-regulation, and healthy relationships. The student is expected to:

(F) identify ways to respectfully communicate verbally and nonverbally

**3.11 Injury and violence prevention and safety—healthy home, school, and community climate.**

The student understands that individual actions and awareness can impact safety, community, and environment. The student is expected to:

(B) identify characteristics of safe home, school, and community environments;

*Lesson Sequence**Engage***Cultivate Curiosity:**

- Intro to PEAS:
  - Introduce yourself
  - Introduce Partners in Education, Agriculture & Sustainability
  - Tell students how often you will be there
  - Future things students will need (clothes and shoes that can get dirty, jacket, etc.)
- Core Routines:
  - Name tags
  - Get settled: Have students walk in carefully, walk around the edge of the tarp (to keep it clean) and take a seat.
  - Opening ritual: Gratitude: share one thing you are grateful for related to the lesson. “Today I am grateful for the energy of the sun that will help our plants grow. If you are grateful for that or something else, please whisper it to the wind now.”
  - Word/Phrase of the Day: To get students attention, Teacher begins a phrase, and invites students to finish it. Teacher says, “Mechanical Energy”, students finish, “is movement!”

*Explore***Root Around:**

- Learn by doing!
  - Take students out into the garden to practice the proper garden behavior as well as take a tour of the garden.
  - Use different forms of energy to help guide your discussion:
    - Mechanical energy—we should use calm mechanical energy with our bodies as we move through the garden & interact with plants
    - Sound energy—we should give everyone respect by listening to others when it is not our turn to talk. We can enjoy the sounds of nature when we use our listening skills
    - Heat/Thermal energy—we can appreciate the thermal energy provided to us by the sun. This will remind us to dress appropriately for gardening!
    - Radiant energy—We are thankful for the sun’s energy that keeps our plants growing!
    - Chemical energy—stop somewhere in the garden to taste one or two plants!
- Discuss the importance of asking an adult before tasting in order to keep our bodies safe & healthy. Throughout the tour of the garden, be sure to plant a tool in the pathway for an opportunity to stop & discuss proper behavior with tools.

*Explain***Grow Understanding:**

- Return to the seating area to review expectations with an anchor chart. Show & fill in Energy anchor chart based on what they learned during the tour.

*Elaborate***Observe the Fruits:**

- Return to the garden to plant!
  - Invite students to show what they have learned today by using the proper garden behavior to plant some carrots & radishes! Help guide students to the proper behavior should they need support.
- Questions to ask while planting:
  - How are we using energy in the garden/natural space today?
  - Are you feeling any heat energy?
  - What will the seeds/plants need to grow food energy?
  - Are we making any sound energy?
  - Are we moving with mechanical energy?
  - Where did you get energy to move around in the garden today?
  - Will our seeds use energy, how?

*Evaluate***Reflect:**

- Debrief
  - A garden is an ecosystem just like a forest or a desert or a prairie, but the special part about a garden is that it only exists because we take care of it. Whatever energy we use to work in the garden we will see because the garden will be healthy and productive, if we don't use energy to put work into the garden it will not look nice. Energy in equals energy out! What are the best ways to use our energy in the garden? Have students share out things we can do to help the garden thrive!
  - Share out the ways students exhibited the proper behavior during today's lesson. Create a "YES!" circle to share out those behaviors & celebrate by counting 1, 2, 3 & shouting "YES!" all together.

## ADAPTATIONS

**Rainscape Education:** At the beginning of the EXPLORE, tell students they are going to be hunting for 3 things: something eating or evidence of eating, evidence of radiant energy (light) and something moving. Pay special attention to the way water is moving on campus and through their rainscape! They can take a clipboard if they want to draw or make notes.

Make hand lenses available to them. After 10 minutes, call them together and debrief the anchor chart. Have them discuss with each other what type of energy they saw. Then allow them to go back to the garden to search for more types of energy. They may take their clipboards again if they wish.

**Urban Forestry:** At the beginning of the EXPLORE, tell students they are going to be hunting for 3 things: something eating or evidence of eating, evidence of light energy and something moving. Challenge them to find all three things on the same tree! They can take a clipboard if they want to draw or make notes.

Make hand lenses available to them. After 10 minutes, call them together and debrief the anchor chart. Have them discuss with each other what type of energy they saw. Then allow them to go back to the garden to search for more types of energy. They may take their clipboards again if they wish.

**Connecting to Nature:** At the beginning of the EXPLORE, tell students they are going to be hunting for 3 things: something eating or evidence of eating, evidence of light energy and something moving. They can take a clipboard if they want to draw or make notes.

## ADDITIONAL RESOURCES

[Berkeley Garden Curriculum](#)




## GARDEN EXPECTATIONS

- ALWAYS WALK IN THE GARDEN AND STAY ON PATHWAYS (DON'T STEP IN THE BEDS).
- RESPECT EACH OTHER, THE WILDLIFE AND PLANTS .
- LISTEN TO LEARN (LISTEN TO TEACHERS/OTHER STUDENTS WHO ARE SHARING).
- BE SAFE WITH THE TOOLS.
- ALWAYS ASK BEFORE HARVESTING.
- WHEN YOU ENCOUNTER A CHALLENGE IN THE GARDEN, AGREE ON A PLAN TO OVERCOME IT AND TAKE ACTION.

# INSECT STRUCTURES

## ESTRUCTURAS DE LOS INSECTOS

Garden

Grades 1–2 • 30 mins • Fall • Outdoors or Indoors 

ADAPTED

GRADES 1–2 | SCHOOL PARTNER  
LESSON PLAN

### ? ESSENTIAL QUESTIONS

How do the different parts of insects help them survive?

### MATERIALS

- Chart/whiteboard with basic insect diagram
- Magnifying boxes
- Pencils
- Clipboards
- Paper

### Abc VOCABULARY

- Head
- Thorax
- Abdomen

### ASSESSMENT

ABCDE drawing of an insect

### PREPARATION (15 MINUTES)

Arrange materials and check for where the insects are hanging out (i.e. milkweed, spider flowers, vines, under leaves, etc)

### TEACHER BACKGROUND

Most of what we call “bugs” are insects in the garden. An insect generally has 3 body parts and 6 legs. Know that roly polies, centipedes, millipedes, spiders, and worms are not insects. Know which insects are poisonous or harmful (i.e. wasps). Identify common insects in the garden such as honey bees, milkweed beetles, aphids, ladybugs, butterflies, moths, crickets, harlequin beetles, etc)

### LESSON DESCRIPTION

Students will review their knowledge of insect parts to identify differences in species.  
Students will create detailed scientific drawings of insects in the garden.

#### NOTE:

- Adapted from **Grade 2 Garden Lesson #17: Insect Structures**, pg 433.
- This lesson was designed to go along with DC Bilingual’s Science Scope and Sequence. Science is taught in Spanish at DC Bilingual. The school views these lessons as a way to reinforce science standards in the garden.



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## LEARNING OBJECTIVES

**Content Learning Objectives***Garden and Food Systems***GFS.2.2** Describe structure and function of insect parts

## ACADEMIC STANDARD CONNECTIONS

**NGSS Crosscutting Concept: Structure and Function**

The shape and stability of natural and designed objects are related to their function(s).

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

What is the same about all insects? What is different?

*Explore***Root Around (10 mins):**

Students will pair up to find and collect insects in magnifying containers. Encourage students to “think like an insect” and look under plants and close to the ground. Demonstrate how to safely collect insects, and remind students not to collect stinging insects.

*Explain***Grow Understanding (5 mins):**

Give time for students to observe their insects and notice differences between their insect and other pairs’ collections. Observe: does the insect have wings? how many? how are the feet different? What kinds of mouths do they have? What do you think they eat?

*Elaborate***Observe the Fruits (10 mins):**

Create an ABCDE drawing of the insects.

*Evaluate***Reflect:**

While students are drawing, walk around and ask: Why do you think that insects have different body parts? How do those parts help them survive or pollinate flowers?



## ADAPTATIONS

One option for observing different insect types would be to procure a set of realistic plastic insects, and to pass them to students to observe and draw. Another option would be to pre-collect insects outdoors and bring them inside.

## POSSIBLE EXTENSIONS

Let’s talk about how varieties of insects help to keep a garden healthy. What are some varieties that we notice in each other, and how does that keep our community healthy?

## ADDITIONAL RESOURCES

- [insectlore.com](http://insectlore.com)
- [ABCDE drawing of an insect](#)

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# BIODIVERSITY IN THE GARDEN

Garden

2nd Grade • 30 mins • Fall • Outdoors

NEW!

GRADE 2

SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

Why is diversity in the garden important?

## 🔍 MATERIALS

- Yarn
- Scissors
- Seeds or transplants for fall planting

### Each pair of students:

- Magnifying lens
- Watering can

### For each student:

- Pencils/sharpener
- Student Journals

## Abc VOCABULARY

- Companion Plant
- Beneficial
- Diversity
- Biodiversity

## ✓ ASSESSMENT

Student Journals—Student will answer reflection questions

## PREPARATION

- Gather seeds for fall crops
- Measure and cut a 48-inch piece of yarn for each student
- Prepare a bed for planting

## LESSON DESCRIPTION

Students consider the importance of biodiversity by observing and drawing all the life in one square foot of the garden. They then learn about companion planting, and beneficials and not-so-beneficials in the garden.



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## LEARNING OBJECTIVES

- Students will be able to describe the diversity they find in the garden.
- Students will be able to sow seeds.
- Students will begin to understand our role as caretakers of the garden.

**Content Learning Objectives***Garden Planning and Maintenance*

**GPM.2.2** Understand when to plant seeds and transplant seedlings into the garden

**Life Skills Learning Objectives***Personal Life Skills*

**PLS.2** Students are able to express empathy and caring for themselves, others and the environment.

*Community Life Skills*

**CLS.4** Students appreciate and are respectful of the difference and diversity in their communities.

## ACADEMIC STANDARD CONNECTIONS

**NGSS.LS4.D Biodiversity and Humans** There are many different kinds of living things in any area, and they exist in different places on land and in water.

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Gather students in a circle and explain that today they'll explore the different types of plants and animals in nature and the garden. Show them how to tie a string into a circle and place it on the ground. Ask: How many living things do you think we'd find if we looked closer? Each student will get a string to place on the ground and use a magnifying glass to observe. Review garden expectations.

*Explore***Root Around (5 mins):**

Explain students will draw pictures of each different plant or animal they find in their square. Label the living things if you know their names. Note some of the creatures might be in the soil.

*Explain***Grow Understanding (5 mins):**

Call students back together. Have volunteers share their findings. Explain that having all these different living things is called diversity. Discuss how diversity is beneficial to the things living in our garden. Explain how the plants we are planting today work together.

*Elaborate***Observe the Fruits (10 mins):**

Plant the seeds radish/carrots red clover

*Evaluate***Reflect (5 mins):**

Ask: What is diversity? How does diversity work in our garden? How does it work in your class?



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# IF OUR CLASS WERE A SOUP

Garden

2nd Grade • 30 mins • Fall • Outdoors or Indoors

NEW!

GRADE 2

SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

How does sharing help a community?

## 👓 MATERIALS

- Copy of *Stone Soup* by Heather Forest or Marcia Brown
- Butcher paper
- Marker/crayons/colored pencils/
- Pencils and sharpener
- Example of favorite vegetable
- Scissors
- Student Journals

## Abc VOCABULARY

- Cooperation
- Community
- Cauldron

## ✓ ASSESSMENT

Students can articulate how sharing and cooperation helps a community.

## PREPARATION

- Use butcher paper to create a large soup pot or cauldron that will represent the classroom soup pot, leave room to attach each student's vegetable drawing.
- Create a model vegetable the ideal size for student drawings.
- Have supplies (paper, markers, crayons scissors) divided up for students to use

## LESSON DESCRIPTION

Students will consider the importance of sharing within a community through reading *Stone Soup* and creating a classroom poster of a soup cauldron to which they'll each contribute their favorite vegetable as an ingredient.



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## LEARNING OBJECTIVES

- Students will be able to identify and describe what they contribute to their class community.

**Life Skills Learning Objectives***Personal Like Skills*

**PLS.2** Students are able to express empathy and caring for themselves, others and the environment.

*Community Like Skills*

**CLS.4** Students appreciate and are respectful of the difference and diversity in their communities.

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELA-LITERACY.RL.2.7** Use information gained from the illustrations and words in print or digital text to demonstrate understanding of its characters, setting or plot.

**CCSS.ELA-LITERACY.SL.2.1** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Begin with a discussion about sharing. Ask, Think of time you shared food, a toy, or something else with a friend. What is difficult about sharing? What are some good things about sharing?

*Explore***Root Around (7 mins):**

Gather in circle and read *Stone Soup*. Ask questions to check for understanding. (How did the villagers treat the strangers at first? What happened when the villagers saw their neighbors contributing to the soup? What else did the villagers do at the banquet in addition to just eating?)

*Explain***Grow Understanding (5 mins):**

Discuss themes of the book getting to how we enjoy things more when everyone contributes a little of what they have. Tell students we are creating our own stone soup as a class by drawing pictures of our favorite vegetable and putting them into this classroom soup pot. Have students write their name and what special quality you bring to the class community (good friend, tell funny jokes).

*Elaborate***Observe the Fruits (8 mins):**

Give students time to draw. Then have students clean up and return to the circle.

*Evaluate***Reflect (5 mins):**

Students share their spirit veg with the group. Affix the vegetables in the pot after class.

# PLANT PART SCAVENGER HUNT

Garden

2nd Grade • 30 mins • Fall • Outdoors

NEW!

GRADE 2 | SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

Why is each plant part important?

## 🕒 MATERIALS

- *Tops and Bottoms* by Janet Stevens
- Plant Part Poster
- 6 containers for students to collect plant parts
- Student Journal
- Pencils/sharpeners

## ✓ ASSESSMENT

Students will accurately identify the 6 plant parts and describe their function.

## PREPARATION

- Print poster

## LESSON DESCRIPTION

In this lesson, students learn the six plant parts through reading a picture book and hunting for the six plant parts in groups in the garden.

## LEARNING OBJECTIVES

- Students will be able to identify the parts of a plant and describe what those parts do.

## Content Learning Objectives

### Plants

**P.2.1** Describe the structure and functions of plant parts.

**P.2.2** Identify edible leaves and stems in the garden.

## Life Skills Learning Objectives

### Community Life Skills

**CLS.2** Students cooperate and communicate well with each other.

**CLS.4** Students appreciate and are respectful of the difference and diversity in their communities.



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## ACADEMIC STANDARD CONNECTIONS

**NGSS.2-LS4-1** Make observations of plants and animals to compare the diversity of life in different habitats.

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Gather students in the garden, and tell them they'll be learning about the six parts of a plant. Read *Tops and Bottoms* by Janet Stevens, about how a clever hare and a lazy bear agree to split tops and bottoms of plants. Hare grows on Bear's land. During the reading ask questions about characters, setting and plot (How do you think Bear is feeling right now? How do you know? What do you think Hare is going to do next? Why do you think that? Discuss how like Hare in the story we grow plants to eat different parts of the plant.

*Explore***Root Around (5 mins):**

Show students a poster of a plant (with the plant parts labeled but covered with paper) and ask students if they can name other parts of the plant as you point to the parts. Reveal the correct answers.

*Explain***Grow Understanding (5 mins):**

Explain the function of each plant part.

*Elaborate***Observe the Fruits (10 mins):**

Divide students into six groups one for each plant part. Explain that they'll have to find their assigned plant part. Give each group a container to hold their collection. Remind students to only pick plants that have ten or more of their plant parts and to harvest with their hands to protect the plant. Remind them of the call back signal.

*Evaluate***Reflect (5 mins):**

Come back to the group to show and tell about their different plant parts.

# PLANT PART WRAPS

Garden

2nd Grade • 30 mins • Fall • Outdoors or Indoors

NEW!

GRADE 2 | SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

How can we work together to prepare a healthy snack?



## MATERIALS

- 1 set of Plant Part Sorting Cards for each group of 4 students
- Plant Part Poster
- Simple Kid friendly dressing
- 4 cutting mats for each group
- 1 set of measuring spoons for each group
- Small jar with lip for each group
- Cleaning supplies
- Student Journal
- Pencils/Sharpener
- Recipe handouts for each child
- Tape for each group

A tray for each group with one sample of each plant part. For example, the trays might have the following:

- ½ head of cauliflower
- 5 Swiss chard leaves
- 2–3 clementines
- Bowl of shredded beets
- Bowl of sliced Celery
- Bowl of sunflower seeds
- Rice vinegar
- Olive oil
- Honey
- Salt
- Pepper



CREATED BY  
DC Bilingual in 2020

Emeril Lagasse Foundation retains ownership of these specific lesson plans. Any third-party resources or handouts included are shared solely as examples and we do not claim ownership of them.

 VOCABULARY

- Crunchy
- Crisp
- Dry
- Juicy
- Succulent
- Tender
- Tough
- Bitter
- Salty
- Sweet
- Sour

 ASSESSMENT

Observational Checklist:

- Student works with others to portion out ingredients so that everyone has what they need to make a wrap and dressing.
- Student cleans and leaves their space ready for the next group
- Student properly records in their journal the plant part ingredients they used to build their wrap.
- Student follows instructions.

## PREPARATION

- Create a small poster for each plant part including its name and multiple visual examples.
- Prepare Plant Part Playing Cards for each group.
- Wash the produce, and sort it into amounts for each group
- Print salad dressing recipe sheets
- Create and print observational checklist

## LESSON DESCRIPTION

In this lesson students create plant part wraps to reinforce their knowledge of the six plant parts.

## LEARNING OBJECTIVES

- Students will be able to prepare fruits and vegetables for a healthy snack

**Content Learning Objectives***Plants*

**P.2.2** Identify edible leaves and stems in the garden.

**Life Skills Learning Objectives***Community Life Skills*

**CLS.4** Students appreciate and are respectful of the difference and diversity in their communities.

## ACADEMIC STANDARD CONNECTIONS

**NGSS.2-LS4-1** Make observations of plants and animals to compare the diversity of life in different habitats.

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Have students turn and talk about what they like to eat for breakfast. Then say I had seed and sticks for breakfast. Can you guess what I had? (oatmeal with cinnamon) We eat different parts of the plants. Today we are going to make Plant Part Wraps.

*Explore***Root Around (5 mins):**

Ask students if they can name the six plant parts? Reveal the parts on the poster as students name them. Different plants are grown because we like to eat different parts of the plant. People like to eat celery and asparagus but we don't eat strawberry stems. Some plants we can eat the whole thing like beets, Pass out the Plant Part cards and have students sort them into parts.

*Explain***Grow Understanding (5 mins):**

Model making Wrap and dressing

*Elaborate***Observe the Fruits (10 mins):**

Make Wraps. Pass our ingredients. Remind students not to take more than they will use.

*Evaluate***Reflect (5 mins):**

When everyone is done we can taste our creations. What do we think? What are the textures? What are the flavors in your wrap? How did those elements work together? How did your team work together?



# WELCOME TO THE GARDEN

Garden

2nd Grade • 30 mins • Fall • Outdoors

ADAPTED

GRADE 2

SCHOOL PARTNER  
LESSON PLAN

## LESSON DESCRIPTION

This lesson serves as an introduction to the garden by providing exploratory time and reviewing garden agreements.

## ? ESSENTIAL QUESTIONS

How can we be kind to the living things in the garden, including plants, animals and people?

## MATERIALS

- Garden Bingo Sheets (1 per student)
- Vinyl slip covers (1 per student)
- Clipboards (1 per student)
- Dry erase markers (1 per student)
- Student Journals (1 per student)
- Pencils (1 per student)
- Hand-held sharpeners (1 per student)
- Chime or whistle (1)

## Abc VOCABULARY

- Safe
- Brave
- Kind
- Decompose
- Compost
- Weed
- Pest

## ASSESSMENT

Observational Checklist

- Student returns quickly when signaled
- Student makes an effort to abide by the Garden Agreements
- Student engages with activity

### NOTE:

Adapted from **Grade 2 Garden Lesson #1: Welcome to the Garden**, pg. 131.



CREATED BY  
DC Bilingual in 2020

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## LEARNING OBJECTIVES

- Students will be able to explain the care and safety agreements they will follow in the garden.

**Life Skills Learning Objectives***Personal Like Skills*

**PLS.2** Students are able to express empathy and caring for themselves, others and the environment.

*Community Like Skills*

**CLS.4** Students appreciate and are respectful of the difference and diversity in their communities.

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELA-LITERACY.RL.2.7** Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.

**CCSS.ELA-LITERACY.SL.2.1** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

## PREPARATION

- Print Garden Bingo Sheets
- Gather Materials

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Gather students explain that they will be getting to know the garden today. It is full of life. What do you think you'll find? But first lets play a game to get to know each other. Play name game (My name is \_\_\_\_\_ and my favorite fruit/vegetable is \_\_\_\_\_)

*Explore***Root Around (5 mins):**

Play garden I spy, demonstrate. Pair students to play socially distant I spy. Before they play let them know what the call to return is (chime/whistle) and where to come back to. Play I spy then have students return on call.

*Explain***Grow Understanding (5 mins):**

Flesh out Garden Agreements (Be Safe, Be Brave, Be Kind) What does that look like in the garden?

*Elaborate***Observe the Fruits (10 mins):**

Play Garden Bingo! Give each student a bingo card and marker. Explain students will be exploring the garden crossing out the square as they find the items. When someone wins they shout Bingo and class returns to circle. The winner takes a bow while the class applauds them. Play a couple of rounds.


*Evaluate***Reflect (5 mins):**

- Review Garden Agreements
- Give Olés for good listening, excitement, etc

# DISCOVERING OUR PESTS

## DESCUBRIENDO PLAGAS DEL JARDIN

Garden

Grade 3 • 30 mins • Fall • Outdoors or Indoors 

ADAPTED

GRADE 3

SCHOOL PARTNER  
LESSON PLAN

### ESSENTIAL QUESTIONS

How do we prevent pests in our garden?

### MATERIALS

- Pictures of typical garden pests and the damage they create
- Pencils
- Paper
- Clipboards
- Poster of insect life cycle

### VOCABULARY

Stages of the insect life

- Larva
- Pupa

### ASSESSMENT

Student journals

### PREPARATION (30 MINUTES)

Get familiar with garden pests and what they look like in different stages of life cycle.

### TEACHER BACKGROUND

At DCB we do not use poisons or synthetic chemicals to deal with pests. We use Integrated Pest Management (IPM) techniques. IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control (like using special bacteria to interrupt life cycles or planting for beneficial insects), habitat manipulation (like interplanting and rotating crops), modification of cultural practices (like weeding, cleaning up areas to prevent habitats for pests, watering carefully), and use of resistant varieties (like planting specific varieties of plants that have been bred for their resistance to pests).

#### NOTE:

- Adapted from **Grade 3 Garden Lesson #5: Discovering Our Pests**, pg 152.
- This lesson was designed to go along with DC Bilingual's Science Scope and Sequence. Science is taught in Spanish at DC Bilingual. The school views these lessons as a way to reinforce science standards in the garden.



CREATED BY  
DC Bilingual in 2021

Emeril Lagasse Foundation retains ownership of these specific lesson plans. Any third-party resources or handouts included are shared solely as examples and we do not claim ownership of them.

## LESSON DESCRIPTION

Students will learn to identify pests in the garden at the different stages of their life cycle. By understanding how life cycles of pests look, we can better prevent pest damage.

## LEARNING OBJECTIVES

**Content Learning Objectives**

*Garden and Food Systems*

**GFS.3.1** Understand how to increase the beneficial insects in a garden environment.

**Life Skills Learning Objectives**

*Personal Life Skills*

**PLS.1** Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.

## ACADEMIC STANDARD CONNECTIONS

**NGSS.3-LS4-4** Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

**Social Studies:** Citizenship, Cultural Traditions.

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Take students to a plant with damage. Ask “What caused this plant to get sick? Let’s look for evidence.”

*Explore***Root Around (10 mins):**

Show students examples of pests that have been found on the plants and what they look like. For example: Harlequin beetles and their eggs; Cabbage worms and cabbage moths; Japanese beetle damage, squash bug larva and adults. These examples can be live or photos. Talk about how it is important to remember what different stages of life look like for insect pests so that we can identify their presence early (at the egg/larva stage) and prevent them from damaging our crops.

*Explain***Grow Understanding:**

Ask students to imagine how we prevent these pests from taking over the plants without using toxic sprays?

*Elaborate***Observe the Fruits (15 mins):**

Students will work in teams to draw and write signs for the garden to show people how to identify pests on plants at different stages.

*Evaluate***Reflect:**

Once these signs are complete, they will be laminated and installed in the garden.

## POSSIBLE EXTENSIONS

Next lesson connects to beneficial insects and their role in IPM.

## ADDITIONAL RESOURCES

- [Searching Dave’s Garden](#)
- *Good Bugs Bad Bugs* by Jessica Walliser
- *What’s wrong with my plant (And how do I fix it)?* by Dean Deardorff and Kathryn Wadsworth
- [Butterfly Insect Complete Metamorphosis Life Cycle Display Poster \(Minibeasts\)](#)

Grades 3–8 • 45 mins • Fall, Winter, Spring, Summer • Outdoor

NEW!

GRADES 3–8

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Jane Madden • jane.madden@discoveryhsf.org

## ? ESSENTIAL QUESTIONS

- What is seasonality?
- What crops grow in our region in (current season)?
- What is currently growing in our garden and where is it growing?
- How can a map of our garden help us?



## MATERIALS

- Clipboards
- Pencils
- Garden Map
  - A map of your garden, with landmarks to help orient students, a clear system for naming garden rows or beds, and places to write, draw, and label crops. You may need to create different maps for different grade levels and/or you may want to assign different areas to classes or small groups depending on the size of your garden. Be sure to include a space to record the date and season to reinforce the concept of seasonality.
- Student Binders
  - Students should add work to their garden binder (grades 5 and up).

## Abc VOCABULARY

- Seasonality
- Region
- Orient
- Crop



## ASSESSMENT

- Completed Maps
- Students can name 3 crops growing in the garden and the season

## PREPARATION

Ensure signs are in place for each crop in your garden. Designate names for each bed (letters, numbers, colors, shapes, whatever you choose). Create a map of your garden for the specific grade level and photocopy it for each student. (This map can be used several times throughout the year to document the changes in the garden through the seasons). Place photocopies on clipboards for each student.

## TEACHER BACKGROUND

The educator will need to understand basic concepts of seasonality, know the layout of the garden and how to orient students to the garden, explain to students that they may need to turn the map as they move through the garden to accurately record the location of each crop. It will also be helpful to have a completed map of the garden and know the number of different crops that are growing.

## LESSON DESCRIPTION

Students' agenda: Opening question and discussion. Work independently or with others to locate and record crops growing in the garden on a map. Come together to name the crops growing as a whole group. Harvest from the garden. Recognize themselves and others through appreciations or shout-outs.

## LEARNING OBJECTIVES

**Content Learning Objectives**

*Weather and Season, Climate and Geography*

**WSCG.4.1** Understand and describe how geographic place and cultural significance might influence what and when foods grow in your location.

**WSCG.6.1** Describe the growing climate and seasons of your school/home garden.

**WSCG.7.2** Demonstrate knowledge of seasonal gardening.

**Life Skills Learning Objectives**

*Personal Life Skills*

**PLS.1** Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.

**PLS.2** Students are able to express empathy and caring for themselves, others, and the environment.

**PLS.3** Students cultivate honest and responsible behaviors that contribute to the learning of the community.

*Community Life Skills*

**CLS.4** Students appreciate and are respectful of differences and diversity in their communities

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELA.4.SL.1.** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse patterns building on others ideas and expressing their own clearly

**NGSS Science and Engineering Practice:** Obtaining, Evaluating and Communicating Information.

*Lesson Sequence**Engage***Cultivate Curiosity (10 mins):**

Students are seated in small groups or partners, choose a structure for your discussion, it can be a timed pair share, round robin, or student led whole group discussion (described below).

Opening Question: “Today we will create and label a map of our garden, think of how we could use this map, what are the different ways a gardener or farmer might use a map of their growing space? There are many possible answers, I am excited to hear your ideas. Let’s think for a moment before we share our ideas.”

Pause for thinking time then say: “Now we get to share our ideas. You are going to lead the discussion, here is how: I will choose the first speaker, they will choose the next speaker by selecting someone who has their hand up and listened while they were speaking. Remember, we’d like to hear from as many voices as possible so please allow others to answer if you’ve already had a turn. Be sure to listen closely because your classmates might build on your answer or share something you hadn’t thought of. What do you think—should we have a hand up while others are speaking or wait until they are finished?”

Facilitate speaker selection process if needed, choose students to record a list of ideas if desired, praise for great listening and contributions to the discussion.

Once all ideas have been expressed, explain: “We will be able to use the map we create in many ways. One way it will help us is (something you might have mentioned already—it will show us what is growing in our garden right now, right here in our region) it will help us understand seasonality—everyone say seasonality—raise your hand if you can describe what it means. (allow for a few answers) Seasonality is a big concept that we will learn about this year—it includes what grows well at what time of year in a specific place or region. We’ll be exploring seasonality throughout our classes in the garden. Let’s get to the mapping!”

Ask students to fill in Name, Date, and Season on your Map Handout, our hand out had our region listed as South East Louisiana. Finally, line up with clipboards and pencils and move to the garden.



*Explore* **Root Around (20 mins):**

Travel to the garden and have students stand shoulder to shoulder looking toward the garden. Orient students to the map by using a landmark on the map, then by asking all students to point to each row when you name it. Then check for understanding again by doing the opposite, you point to a row and on cue all students call out the name of that row. Model how to label the crops on the map, where to write or draw on the map and point out the signs that you are gathering the information from. If needed move to another location opposite where you are standing so students understand that if they change their vantage point they need to move the map, also explain that you can always go back to the first vantage point if needed. Tell students how many different crops there are and challenge them to find all of the crops, remind students to look at the plants so they begin to learn the names of each crop.

Allow students to work in teams or solo to find each crop. As they work, check student work and encourage students to help another student when they have completed the map. (Alternately students can water plants or explore with a magnifying glass if they finish early). When all have finished and had time to water, come back together in the garden classroom.

*Explain* **Clarify New Ideas (5 mins):**

Once students are seated again, challenge the class to name as many crops as they can without repeating. Tally a point (or assign a student to tally them) for each crop. Congratulate students for great effort and teamwork. Ask: Each of these crops are growing in what region? In what season? Did anyone find any (out of season crop) growing in the garden? Why not—explain it is not the right season for that crop to grow in our region—why, what's not right (weather conditions, hours of sunlight etc.) These are key components of Seasonality.

*Elaborate* **Observe The Fruits (5 mins):**

If available, harvest a snack from the garden, use the map to describe the location of the mystery snack, and demonstrate how to harvest if needed. Ensure that students sanitize hands and rinse harvest before consuming.

*Evaluate* **Reflect (5 mins):**

Timed pair share or mix pair share: “Name something new you learned today in the garden. It could be new knowledge about the crops we are growing, new vocabulary, or a new skill like map reading or harvesting that you hadn't done before.” To establish an evaluation routine, the following questions can serve as a guide for each lesson.

- What did you enjoy about today's class, what was your favorite part? Did you learn any new information or skills in class today? What could you teach someone based on what we did today?
- Did anything about our class surprise you? Did you learn any new information or skills in class today? What could you teach someone based on what we did today?
- What connections can you make between what we did today and the kitchen?
- How did you or a classmate show a school value or honor our garden agreements?



## ADAPTING FOR INDOORS

- Garden Plan Map-Use the same opening questions, but have students use a simple planting calendar or regional guide to create a garden plan on the map.
- Create collages of seasonal crops or a seasonality guide using images cut from magazines.

## CONNECTIONS TO KITCHEN LESSONS

Use an ingredient list from a recipe from the kitchen as a guide for a scavenger hunt in the garden. Research the source of ingredients that we did not find in the garden, find out if we could grow them and if so when.

## POSSIBLE EXTENSIONS

- Predict how soon different crops will be ready for harvest and create a chart for the Chef Educator so that the produce can be used in the teaching kitchen.
- Research simple recipes or share family recipes that use the seasonal crops.
- Create a seasonal crop bingo board or scavenger hunt for garden visitors.
- Schedule student ambassadors to lead tours of the garden using the map.

## OTHER COMMENTS

A common map of the garden can be very useful for assigning jobs to students and volunteers and setting up observation stations. Collecting and comparing maps of each season can help reinforce the idea of seasonality. Numerous questions and observations about the plants and the stage of their life cycle can take place to build a greater understanding of seasonality as well.

# COMPOST CONNECTIONS: BUILDING A WORM BIN

Garden

Grade 4 • 45 mins • Fall, Winter, Spring, Summer • Outdoor

ADAPTED

GRADE 4

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Jane Madden • jane.madden@discoveryhsf.org

## ? ESSENTIAL QUESTIONS

- What is composting and how is it beneficial?
- What is vermicomposting?
- How is a homemade vermicomposting system created and maintained?
- How are the materials that we can compost alike?
- What is a decomposer and what role do decomposers play in the garden?
- How do decomposers break down organic matter?

## MATERIALS

- An opaque plastic tupperware bin with a tight fitting lid and pre drilled holes (at least 1 per class) It is helpful to have several so that once they are set up, small groups of 2–4 children can observe the worms and care for them.
- Bedding Materials
  - Used brown cardboard boxes, paper grocery or lunch bags, newspaper, etc.
- A Bowl or Bucket of Water for each group to dip and squeeze bedding materials in
- Food Scraps
  - Fruit and vegetable peels and scraps (no citrus), garden scraps (surplus cuttings, leaves, stems that can be cut or broken into smaller pieces)
- Decomposer Hand Out (linked under additional resources)
- Organic Matter/Biodegradable Materials or a printed handout (teacher created handout with pictures of fruit peels, newspaper, fallen leaves, fallen twigs or sticks, apple cores, etc.)

## Abc VOCABULARY

- Compost
- Decompose/Decomposer
- Biodegradable
- Organic Matter
- Vermicompost
- Bedding
- Castings

### NOTE:

Adapted from **Grade 4 Garden Lesson #8: Building a Worm Bin**, pg 174.

 ASSESSMENT

Student selected assignment to be completed as group or independent work:

- Create a video explaining how to set up a worm bin.
- Bring in 1 bedding material and 1 food material suitable for vermicomposting to our garden and add it to the bin.
- Create a collage, poster, or other visual aid showing materials that are suitable for vermicomposting.
- Create a guide for setting up and maintaining a worm bin.
- Create a song, rap or poem about what can and cannot be composted by the red wigglers. Turn in a video performance or written work.

## PREPARATION (ESTIMATED TIME VARIES)

Print out and laminate (if desired) handouts. Prepare enough bedding, water bowls, and food scrap materials for each small group or station, plan how you will distribute these materials or how students will rotate through. Pre drill holes in your worm bin containers. (I often combined the worm bins that students had set up after class to allow for an empty bin for the next group.)

## TEACHER BACKGROUND

The educator needs to know the basics of **vermicomposting** and how to set up a worm bin.

## LESSON DESCRIPTION

- Compost Concept Review: Revisit the compost tumbler by spinning it at that start of class and discussing how it works.
- Compost Connections: Student Led Discussion about Organic Materials and Decomposers
- Worm Bin Set Up and Clean Up
- Vermicompost Do's and Don'ts Guided Handout
- Closing Appreciations

LEARNING OBJECTIVES

**Content Learning Objectives**

*Soil*

**S.4.1** Identify and describe structure and function of organisms living in soil.

*Garden Tools and Equipment*

**GTE.4.1-4** Garden Tools and Equipment

**Life Skills Learning Objectives**

*Personal Life Skills*

**PLS.2** Students are able to express empathy and caring for themselves, others, and the environment.

*Community Life Skills*

**CLS.2** Students cooperate and communicate well with each other.

ACADEMIC STANDARD CONNECTIONS

**NGSS Science and Engineering Practice:** Planning and Carrying Out Investigations.

**CCSS.ELALITERACY.W.4.2.D** Use precise language and domain-specific vocabulary to inform about or explain the topic.

HEALTH STANDARD CONNECTIONS

**National Health Education Standard 7:** Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks

*Lesson Sequence**Engage***Cultivate Curiosity:**

On the way to the garden classroom tables, have each student spin the compost tumbler. Once everyone is seated, facilitate a quick student led discussion to review what we have learned about the tumbler.

Ask students to look at and discuss the question on their clipboard. “What do all of these materials have in common?” Facilitate another quick discussion—each table can share out their ideas or you can allow students to call on each other. All ideas should be accepted, then restate ideas that are key to today’s lesson—all of these materials come from nature, they were once living, they can be broken down, they will decompose over time. Introduce the terms organic matter and biodegradable. Push for a connection to the compost tumbler.

Next flip the hand out over to see pictures of organisms—allow for thinking or table talk time, then ask “What do all of these organisms have in common?” Allow for all ideas and restate key ideas—they break things down, they need other living things to survive, etc. Introduce the term decomposer—all of these organisms are decomposers they break down organic and biodegradable materials. They help the earth by breaking these materials down and creating healthy compost.

Explain: Today we will set up another composting system, this one will use red wiggler worms because they are excellent decomposers. To do this, we will need to make the worms a special home.

*Explore***Root Around:**

Worm bin set up: Show students the empty bin, point out that it is opaque, and that there are holes drilled along the top. Ask them why both of these features are important.

Show students bedding materials and demonstrate how to prepare them by tearing, dipping, and wringing out bedding.

Show students food and garden scraps and ask—how do you think the worms will break this down—(by eating and creating nutrient rich waste called castings that become part of the soil and feed the plants.) If possible, show students a bag of store-bought castings and quickly explain or ask students how it is used in the garden. Then ask—do you think large pieces or small pieces of food will be easier for the worms to break down? Demonstrate making the pieces as small as possible, allow student to leave a few large pieces available to observe what happens over time.

*Explain* **Grow Understanding:**

Allow students time to prepare the bedding and food for the bins, then pass the bin and instruct students to add materials in layers. Clean up tables and stations before adding the worms. They can be placed on top because they will dig their way down. Once students have had time to observe them, close and collect bins and wash hands.

*Elaborate* **Observe The Fruits:**

Distribute the worm bin basics handout (linked below). Ask students to name foods that worms can decompose easily. Check for understanding by asking if we need to buy fresh fruit just for the worms (no use leftover scraps). Ask—how will the worms turn this into compost? What will we do with that compost? Ask students to name something we should not put into the bins.

*Evaluate* **Reflect:**

- What did you enjoy about today's class, what was your favorite part?
- Did anything about our class surprise you? Did you learn any new information or skills in class today? What could you teach someone based on what we did today?
- What connections can you make between what we did today and the kitchen?
- How did you or a classmate show a school value or honor our garden agreements?

**ADAPTING FOR INDOORS**

Take it all inside on a cart. Bring tablecloths and allow extra time to get to a handwashing station.

**CONNECTIONS TO KITCHEN LESSONS**

Add food scraps from the kitchen into the worm bin. Create a sorting station for food scraps in the kitchen based on the infographic of what worms can and cannot breakdown.

**POSSIBLE EXTENSIONS**

Create a system for collecting compost scraps from the cafeteria.

**ADDITIONAL RESOURCES**


This lesson has been adapted from the following extensive composting curriculum:

- [DO THE ROT THING Compost Critters worksheet](#) located on page 14 of the handout.
- [What Can Red Wigglers Eat? Magnet](#) used for Class Discussion Available for Purchase at this link and on Amazon

# INSECT STRUCTURES

## ESTRUCTURAS DE LOS INSECTOS

Garden

Grade 4 • 30 mins • Fall • Outdoors or Indoors 

ADAPTED

GRADE 4

SCHOOL PARTNER  
LESSON PLAN

### ESSENTIAL QUESTIONS

How do the different parts of insects help plants survive?

### MATERIALS

- Matching cards
- Clipboards
- Paper
- Colored pencils
- Pencils

### VOCABULARY

- Head
- Thorax
- Abdomen

### ASSESSMENT

Matching game

### PREPARATION (15 MINUTES)

Arrange materials and check for where the insects are hanging out (i.e. milkweed, spider flowers, vines, under leaves, etc)

#### NOTE:

- Adapted from **Grade 2 Garden Lesson #17: Insect Structures**, pg 433.
- This lesson was designed to go along with DC Bilingual's Science Scope and Sequence. Science is taught in Spanish at DC Bilingual. The school views these lessons as a way to reinforce science standards in the garden.



## TEACHER BACKGROUND

Most of what we call “bugs” are insects in the garden. An insect generally has 3 body parts and 6 legs. Know that roly polies, centipedes, millipedes, spiders, and worms are not insects. Know which insects are poisonous or harmful (i.e. wasps). Identify common insects in the garden such as honey bees, milkweed beetles, aphids, ladybugs, butterflies, moths, crickets, harlequin beetles, etc). Different plants require different insects for pollination. Looking at the forms of a variety of flowers, we can see that some are flat, others have long structures with nectar in the bottom, others have multiple flowers on one stalk. Get familiar with the flowers in the garden including: zinnias, sunflowers, spiderflowers, peas/bean flowers, verbena, bee balm, aster, and hibiscus.

## LESSON DESCRIPTION

Students will review their knowledge of insect parts to identify differences in species. Students will play a matching game to match insects to the flowers that they pollinate

## LEARNING OBJECTIVES

**Content Learning Objectives**

*Garden and Food Systems*

**GFS.2.2** Describe structure and function of insect parts

## ACADEMIC STANDARD CONNECTIONS

**NGSS Crosscutting Concept: Structure and Function**

The shape and stability of natural and designed objects are related to their function(s).

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Why do insects have different body parts?

*Explore***Root Around (10 mins):**

Students will pair up to look for insects on flowers. Using clipboards and pencils, they will draw the flower and the insects that they see present. Encourage students to look carefully and determine—what makes this flower different from others? Is it one flower or a cluster of flowers? What shape is the flower? Where is the nectar? Direct students to sit calmly and quietly near a flower for a while in order to create an environment where the insects will remain.

*Explain***Grow Understanding (5 mins):**

In the seating circle, students will share out which flowers they found and the insects that were visiting them to partners.

*Elaborate* **Observe the Fruits (10 mins):**

In groups of 4, pass out pollinator matching cards and instruct students to make matches and prepare to explain to the class why these matches make sense.

*Evaluate* **Reflect:**

Students will volunteer to show the class the matches they made and explain why these matches make sense.

---

**ADAPTATIONS**

Matching game can be done indoors.

**POSSIBLE EXTENSIONS**

Let's talk about how varieties of insects help to keep a garden healthy. What are some varieties that we notice in each other, and how does that keep our community healthy?

**ADDITIONAL RESOURCES**

[Pollinator Matching Activity](#)

# SAVING BEAN SEEDS

## GUARDANDO SEMILLAS

Garden

Grade 5 • 30 mins • Fall/Winter • Outdoors or Indoors 

ADAPTED

GRADE 5

SCHOOL PARTNER  
LESSON PLAN

### ESSENTIAL QUESTIONS

Why do we save seeds?

### MATERIALS

- Drying plants with seeds i.e. beans, marigolds, sunflowers
- Paper
- Seed envelopes
- Pencils
- Colored pencils

### VOCABULARY

- Seed sovereignty—the farmer’s rights to save, breed and exchange seeds, to have access to diverse open source seeds which can be saved

### ASSESSMENT

Student journals

### TEACHER BACKGROUND

Familiarize oneself with the plants that are ready to harvest seeds from for the following year. Also learn about different reasons that people have saved seeds—for food (spreading energy), for genetics, and as an act of resistance and survival (i.e. enslaved peoples braiding seeds into hair; Indigenous people protesting for seed sovereignty)

### LESSON DESCRIPTION

Students will learn about the seeds we can harvest at the end of the growing season, and why we choose to save seeds.

### LEARNING OBJECTIVES

#### Content Learning Objectives

##### *Plants*

**P.5.1** Understand how to identify and cultivate genetic traits in plants.

#### NOTE:

- Adapted from **Grade 5 Garden Lesson #3: Saving Bean Seeds**, pg 455.
- This lesson was designed to go along with DC Bilingual’s Science Scope and Sequence. Science is taught in Spanish at DC Bilingual. The school views these lessons as a way to reinforce science standards in the garden.



CREATED BY  
DC Bilingual in 2021

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**Life Skills Learning Objectives***Community Life Skills*

**CLS.3** Students understand and apply principles of fairness, equity, and democracy in the garden and kitchen environments.

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELA-LITERACY.W.5.2** Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

**Social Studies:** Citizenship, Cultural Traditions.

*Lesson Sequence**Engage***Cultivate Curiosity (5 mins):**

Where do we get seeds from each year to grow food? How do we get them?

*Explore***Root Around (5–10 mins):**

Either have students collect seeds from a variety of plants in the garden OR present students with a variety of cut plants and instruct them to find and collect the seeds. Are all seeds the same? How do we know which seeds are “good”?

*Explain***Grow Understanding (5 mins):**

In groups, list the reasons why people would want to save seeds each year. Share out to whole group.

*Elaborate***Observe the Fruits (10 mins):**

Students will collect some of the seeds to design their own seed packs for the following season. Students will write the story of the seeds and why we are saving them on the backs of the seed packets. Are they good quality or not? What will people harvest? Why is it worth it?

*Evaluate***Reflect:**

Students volunteer to share the stories they have written on their seed packets.



## ADAPTATIONS

Plants can be brought indoors.

## CONNECTIONS TO KITCHEN LESSONS

Bean seeds can be saved and cooked.

## POSSIBLE EXTENSIONS

How does seed saving connect to food access and food justice?

## ADDITIONAL RESOURCES

[Six Simple Reasons To Introduce Kids to Seed Saving](#)



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# A GARDEN OF CELLS

Garden

## ACADEMIC STANDARD CONNECTIONS

NEW!

GRADE 6

SCHOOL PARTNER  
LESSON PLAN

### NGSS.6-MS-LS1-1

Conduct an investigation to provide evidence that living things are made of cells, either one or many different numbers and types.

### LESSON PREPARATION

Two weeks prior, have students go down to the garden to create mini-ponds: In groups of four they put 1 tablespoon of soil and a handful of grass into a deli container. The remainder of the container is filled until  $\frac{3}{4}$  full with creek water. (Teacher should collect creek water with a pitcher). These ponds are sealed, labeled and stored in the back of the classroom for two weeks.

### BACKGROUND KNOWLEDGE

Students should know how to operate microscopes.

### LESSON DESCRIPTION

This lesson serves as an introductory phenomenon for the 6th grade unit on cells. It gives more than 5 options for possible cells students can look at with a microscope so it is not necessary for the teacher to use all five.



### MATERIALS

- Microscopes
- Microscope Slides
- Cover Slips
- Droppers
- Bulbs from Garden
- Toothpicks
- Scotch Tape
- Elodea Leaves
- (optional): Amoeba, paramecium, euglena cultures ordered online
- Iodine or Methylene Blue
- Colored pencils



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## LESSON ACTIVITY

1. Bellwork: What are the traits common to all living things?
2. Students will go down to the garden and collect a bulb (onion or garlic).
3. Students are divided up into the minipond groups from two weeks prior. There should be few enough groups that each can be accommodated with a microscope.
4. Following along with the handout, students will look at five samples under microscopes. More rows can be added to the table in the document if the groups are going to look at more than five specimens. The teacher should not tell the students they are looking for cells. They will use colored pencils to diagram the phenomena and notate observations, inferences, and patterns on the handout included above.
  - a. Skin collected from the elbow with a piece of scotch tape. Students will press a piece of scotch tape to their elbow and place the piece of tape between two glass slides.
  - b. Cheek swab collected with a toothpick. Students will gently rub the inside of their cheek with tooth pick and rub the residue onto a glass slide. They will then cover it with a plastic cover slip.
  - c. Elodea leaf collected from a fish tank (cheaply ordered online). A single leaf will be sandwiched between two glass slides.
  - d. Stained bulb cuttings: Peel Your Onion or garlic and take a super thin cutting of the bulb. Put One Drop or Two of Iodine—onto the top of the onion cell. If you are using Methylene blue, you'll need to apply the stain next to the cover slip after it is down. Go light because too much will mean you can't see the cell well.
  - e. Minipond water with droppers. These miniponds will smell and should be immediately disposed of after use. A drop of the slimy layer of pond water from the surface of the miniponds will be wet mounted. It can be difficult to locate the microbes so students may have to try multiple times.
  - f. Additionally, Euglena, Amoeba, and Paramecium samples can be ordered online and used. A single drop of the liquid cultures can be wet mounted on the slides.
5. Each student is given two sticky notes. Using their observations and inferences from their packet they will write one "I notice" and one "I wonder" statement. They will then place the notes in two designated spaces at the front of the room.
6. Teacher leads oral discussion of "I wonder" questions and "I notice" statements organizing them for similar themes.
7. Individual groups develop a model of what they have seen at the end of the packet.
8. Class comes together to develop a consensus model of these phenomena on the front board.
9. Students watch [TedED Video on the Cell Theory](#)



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Name: \_\_\_\_\_

Date: \_\_\_\_\_

WHAT ARE WE LOOKING AT?

	Drawing	Observations and Inferences
1		
2		
3		
4		
5		

Work with your group to create a model of the phenomena you have been looking at in the space below. You can use diagrams as well as written explanations.



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# FOOD SYSTEMS PROCESSING

Garden

Grade 6 • 45 mins

ADAPTED

GRADE 6

SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

- What is a food system? Why are food systems important?
- What are the main stages of a food system? What does each stage look like?
- Can we connect what we do in the garden to the food system?

## 🔪 MATERIALS

- Photos for each stage of the food system
- Handouts for student led discussion
- Scissors, salad spinner, ziploc bags
- Seeds, soil, pots, watering cans
- Hibiscus or another crop for processing: harvesting, washing, packing, storing

## Abc VOCABULARY

- Food system
- Processing
- Production
- Distribution
- Consumption

## ✓ ASSESSMENT

### Tool Safety Checklist

- Hands and tools are clean.
- Student walks with closed scissors pointed down, arm not swinging
- When sharing scissors, student hands others the handle not the blade or places tool down in front of partner
- Student focuses and looks at hands while using scissors and ensures they are cutting far from their own hands or fingers
- Students space themselves appropriately or take turns while harvesting

### HARVESTING

- The produce harvested is placed in an appropriate container
- Harvest is washed and packed safely
- Pre and post test for unit

### TEACHER BACKGROUND

How to properly harvest, wash, and store hibiscus. Food system basics

#### NOTE:

Adapted from **Grade 6 Garden Lesson #2: Producers and Consumers**, pg 202.



## LESSON DESCRIPTION

Students will use text and photos to gain an understanding of each step of a Food System, then work hands on in the garden and relate the work they are doing back to the Food System.

## LEARNING OBJECTIVES

**Content Learning Objectives***Plants*

**P.6.3** Understand best harvest practices for food grown in the garden.

*Garden Tools and Equipment*

**GTE.6.1-4** Garden Tools and Equipment

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELALITERACY.SL.6.5** Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

## HEALTH STANDARD CONNECTIONS

**National Health Education Standard 8:** Students will demonstrate the ability to advocate for personal, family, and community health.

*Lesson Sequence**Engage***Cultivate Curiosity:**

Food related would you rather. Then connect our preferences to the food system. Would you rather get fast food to go, or eat in the restaurant? Would you rather grow food or prepare food? Would you rather be a delivery driver or work in a restaurant?

*Explore***Root Around:**

Pass photos of what that stage of the food system looks like, then have a student led discussion. Key questions: What resources are needed? What jobs are part of this stage? What questions do you have?

*Explain***Grow Understanding:**

Allow students to choose a job in Production: (planting seeds, turning compost, watering plants) or Processing (Harvesting Hibiscus, washing and spinning leaves in the salad spinner, packing leaves for each student, storing in the refrigerator)

*Elaborate***Observe the Fruits:**

Students work in the garden, self-directed.

*Evaluate***Reflect (10 mins):**

Reflection question (student led-discussion, timed pair share, or mix pair share): Think of a job someone might do to process one of your favorite foods and share it with your partner. HEART Tenet Class Shout Outs, student led.

 ADAPTING FOR INDOORS

Bring seeds and peat pots indoors for planting, bring hibiscus roselles inside and use the dehydrator for drying the calyx to dry make tea or bring salad spinners in cafeteria and have students wash and pack pre-harvested hibiscus leaves.

## CONNECTIONS TO KITCHEN LESSONS

In the kitchen, discuss which step of the food system cooking is. Process food from the garden into a product-like a jam, tea bag, or herb mix.

## POSSIBLE EXTENSIONS

Visit a local farm. Have students act as reporters and document the trip. Tour the areas used for harvesting, washing, storage and packing. Find out where the food will go next.

## ADDITIONAL RESOURCES

- Content adapted from [What Makes up a Food System? Breaking it Down into 4 Parts](#)
- [Food System Unit Handout](#)
- Food Systems Objectives listed below
  1. I can define a food system in my own words.
  2. I can describe the four main steps of a food system.
  3. I can relate our work in the kitchen and garden to a food system.
  4. I can appreciate the many people who work within a food system.
  5. I can appreciate the resources used to produce, process, and distribute the food I eat each day.

# FOOD SYSTEMS UNIT REVIEW

Garden

Grade 6 • 45 mins

NEW!

GRADE 6

SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

- What is a food system? Why are food systems important?
- What are the main stages of a food system? What does each stage look like?
- Can we connect what we do in the garden to the food system?

## MATERIALS

- [Google Slideshow](#) if indoors
- Laminated Food Systems Flow Chart
- Dry Erase Markers
- Clipboards
- Tissues (to erase)
- Green Onions, Soil, 4" Planting Pots, Pop Sticks, Sharpies\*\*\* (optional lesson extension)

## Abc VOCABULARY

- Food system
- Processing
- Production
- Distribution
- Consumption
- Compost
- Food Waste

## ASSESSMENT

### Tool Safety Checklist

- Students are displaying their answers to each review question
- Students are generating questions for the review
- Students are using proper technique for planting
- Pre and post test for unit

### TEACHER BACKGROUND

Review Food Systems Materials and Slide Show, Kagan Cooperative Learning Structures: Show down and mix pair share, possible spectrum questions

## LESSON DESCRIPTION

Students will review their understanding of our food systems unit through Kagan structures. Students will propagate a plant by planting a green onion cutting and aromatic herb cutting.

## LEARNING OBJECTIVES

**Content Learning Objectives***Garden Planning and Maintenance*

**GPM.6.2** Demonstrate understanding of compost and/or vermi-culture system.

*Garden and Food Systems*

**GFS.3.4** Define local food system

Food Systems Objectives listed below

1. I can define a food system in my own words.
2. I can describe the four main steps of a food system.
3. I can relate our work in the kitchen and garden to a food system.
4. I can appreciate the many people who work within a food system.
5. I can appreciate the resources used to produce, process, and distribute the food I eat each day.

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELALITERACY.SL.6.1** Engage effectively in a range of collaborative discussions (one on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

*Lesson Sequence**Engage***Cultivate Curiosity:**

Open class with 3–5 minutes of garden exploration time, while walking, think of something we have done this semester that you really enjoyed. Mix Pair Share—Share the activity you have enjoyed most this semester. We can relate everything we've done this semester to a food system. Today we will review what we've learned! Take a clipboard, laminated sheet, tissue and dry erase marker to the table.

*Explore***Root Around:**

*I do/we do:* Review Activity; Kagan Structure Showdown: Introduce question format first (circle the correct stage of the food system, practice question, then stand back to back with a partner and explain the showdown structure) Teacher gives examples of an activity related to the food system, students circle the stage it fits into on the flowchart, markers are held high when ready, teacher counts up to 3, then partners reveal answers to one another, teacher reviews the answer.

*You do:* Students generate the example food system activity, repeat the showdown, and discuss each answer, if any examples are unclear, consider using a spectrum question to discuss, like; Does milking a cow fit into the production or processing stage? (if indoors, use the slideshow for the first few questions) Flip laminated sheet on clip board.

*Direct:* Write down at least one idea to reduce food waste, one idea that will help us waste less food. Shift from showdown to mix pair share, then student led discussion.

*Showdown Structure Direct:* Draw the creature that helps us recycle food scraps into soil in our vermicomposting bin. Reveal and discuss.

*Showdown Structure Ask:* True or False: you can start a new plant without seeds. True, Put materials away and shift to demonstration circle space.

*Explain***Grow Understanding:**

Demonstrate taking a cutting from an herb or green onion and planting it. Review steps, then allow students to plant their own cutting. If time allows, package in a brown bag with name to take home, students will pick up their plants at dismissal time. Ask; Which step of the food system is this? (Production)

*Elaborate***Observe the Fruits:**

Review steps, then allow students to plant their own cutting. If time allows, package in a brown bag with name to take home, students will pick up their plants at dismissal time.

*Evaluate***Reflect (10 mins):**

Student shout outs, student led.

**ADAPTING FOR INDOORS**

Use the slide show and bring planting materials inside.

CONNECTIONS TO KITCHEN LESSONS

In the kitchen, discuss which step of the food system cooking is. Process food from the garden into a product—like a jam, tea bag, or herb mix.

POSSIBLE EXTENSIONS

Develop and market a student made product, sell it at a special event or at a local Farmer’s Market if regulations allow.



ADDITIONAL RESOURCES

- Content adapted from [What Makes up a Food System? Breaking it Down into 4 Parts.](#)
- [Food System Unit—Google Docs](#)

# HOW FUNGI RECYCLE MATTER

Garden

Grade 6 • 140 mins

Fall, Winter, Spring, Summer • Indoor and Outdoor  

NEW!

GRADE 6

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Noah Welsh • [nwelsh@bellechasseacademy.org](mailto:nwelsh@bellechasseacademy.org)



## ESSENTIAL QUESTIONS

- How are fungi important to the environment?



## MATERIALS

- Mushroom growing set up
- Mushroom medium
- Oyster mushroom spores
- Pizza ingredients



## VOCABULARY

- Spores
- Decomposers
- Fungi/fungus

PREPARATION (ESTIMATED TIME VARIES)

Teacher should prepare indoor oyster mushroom gardens.

TEACHER BACKGROUND

Teacher should understand energy flow in food chains and food webs in addition to photosynthesis and cellular respiration.

LESSON DESCRIPTION

Students will learn about fungi and the energy and matter that flows through them, by exploring mycellium networks in the garden, growing and harvesting oyster mushrooms, and using those mushrooms to make pizza.



CREATED BY

Belle Chasse Academy in 2022

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## LEARNING OBJECTIVES

- I can develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
- I can work in teams.

## Life Skills Learning Objectives

*Community Life Skills*

**CLS.2** Students cooperate and communicate well with each other.

## ACADEMIC STANDARD CONNECTIONS

**6-MS-LS2-3:** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

## HEALTH STANDARD CONNECTIONS

**4-M-3.1** Role-play appropriate ways to respond to feedback from others.

*Lesson Sequence**Engage***Cultivate Curiosity (30 mins):**

Students will go into the garden and search the soil for fungal mycelium networks.

*Explore***Root Around (20 mins):**

Students will harvest mushrooms from indoor oyster growing buckets. Teachers will have to prebuild and set up these systems.

*Explain***Grow Understanding (20 mins):**

Students will draw and discuss diagrams of the energy flow in the system, including people, mushrooms, mushroom medium, pizza, etc.

*Elaborate***Observe The Fruits (50 mins):**

Students will cook pizza using their harvested oyster mushrooms as the primary topping.

*Evaluate***Reflect (20 mins):**

Students will write a paragraph using Claim-Evidence-Reasoning explaining how energy moved from the Sun to plants to various consumers and in turn to the mushroom and back into their pizza. Additionally, they should explain how the matter moved from the air and water into the plant and through a food web and onto their pizza. Their discussion should include discussion of the corresponding transformations of energy and matter.





 ADAPTING FOR INDOORS

Students may look at internet pictures of mycellium if the day is rainy. They can then go explore for mycellium in the soil on a future date. All other lesson components can be completed indoors.

## CONNECTIONS TO KITCHEN LESSONS

This lesson includes both garden and kitchen components. Mushrooms grown in the students indoor harvesting containers will be used as pizza topping for pizza cooked in the kitchen.

## POSSIBLE EXTENSIONS

Students can now cook pizza for class/school events.

## ADDITIONAL RESOURCES

[Growing Mushrooms at Home](#)

 OTHER COMMENTS

This lesson will take two days.



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# HOW TO HARVEST (BASIL)

Garden

Grade 6 • 2–4 Days • 180 mins

ADAPTED

GRADE 6

SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

- What types or varieties of basil are growing in the garden?
- How do we safely harvest basil to ensure the plant will continue to produce?
- What should we do post harvest to keep the basil fresh and safe for cooking?
- Can we preserve basil for use in the future?

## 🕒 MATERIALS

- Dry basil or italian seasoning jars to show at the beginning of class
- Basil ready to harvest
- Scissors
- Bowls or vases depending on when you will use/store the basil
- Dehydrator (optional)
- Salad Spinners (optional)
- Day 2 Part 2: Scripts for video
- Video camera or tablet for filming
- Sign templates for students creating signs
- Colored pencils, markers or computers for students creating signs or researching recipes

## Abc VOCABULARY

- Variety
- Harvest
- Dehydrator

## ✓ ASSESSMENT

### Tool Safety Checklist

- Hands and tools are clean. Student walks with closed scissors pointed down, arm not swinging.
- When sharing scissors, student hands others the handle not the blade or places tool down in front of partner.
- Student focuses and looks at hands while using scissors and ensures they are cutting far from their own hands or fingers.
- Students space themselves appropriately or take turns while harvesting.

### Harvesting

- Students cut the stem of the basil above new growth (node) or pinch back tops of basil to prevent flowering
- The produce harvested is placed in an appropriate container

### TEACHER BACKGROUND

How to properly harvest, wash, and store basil. Coordinate with chef educator when basil will be used.

#### NOTE:

Adapted from **Garden Lesson #3: How to Harvest**, pg 202.

## LESSON DESCRIPTION

On Day 1, Students will learn how to harvest safely, on day 2 students create a video to demonstrate how to harvest basil. The procedures for Day 2 are listed in the REFLECT Section of this document.

## LEARNING OBJECTIVES

**Content Learning Objectives***Plants*

**P.6.3** Understand best harvest practices for food grown in the garden.

*Garden Tools and Equipment*

**GTE.6.1-4** Garden Tools and Equipment

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELALITERACY.SL.6.5** Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

## HEALTH STANDARD CONNECTIONS

**National Health Education Standard 8:** Students will demonstrate the ability to advocate for personal, family, and community health.

*Lesson Sequence**Engage***Cultivate Curiosity:**

Show or pass around a spice jar of basil from the pantry. Allow students to look at the bottle and smell the contents. Ask: Has anyone used this herb in their kitchen at home? Based on the smell, what would you use it in? What steps do you think it took to get to us?

*Explore***Root Around:**

Challenge table teams to each find the basil growing in the garden by giving each team a leaf to match. Then tour the types of basil and name them.

*Explain***Grow Understanding:**

Review tool safety for scissors or snips. Demonstrate how to HARVEST and where to place harvested basil.

*Elaborate***Observe the Fruits:**

Then ask students to wash or sanitize hands and each make one cut from the basil plant their team found and bring it back to the classroom circle. Demonstrate how to best wash and store the basil for use in the kitchen. If there is a surplus of fresh basil leaves, have students destem the basil and place leaves on the tray for the dehydrator. Discuss how the basil will change in the dehydrator and relate back to the jar at the start of class.

## PROCEDURE

1. Class begins with a discussion period at the beginning of class. Introduction to material, new vocabulary, use of video of resource ([Understanding Our Soil: The Nitrogen Cycle, Fixers, and Fertilizer](#)).
2. Next, class engages in group discussion to review garden rules and procedures. Outline activity expectations and instruction of garden activity.
  - preparation of planting holes at ½–1 inch depth according to seeds size
  - planting bean seeds in a sunny location
  - applying water to stimulate growth hormone
3. Garden experience: class will perform steps discussed in step #2. garden maintenance and nitrogen fixation with use of legume cover crop.
4. Return to classroom or discussion circle for wrap up Post Assessment and review of lesson/new vocabulary.



## MATERIALS

- Garden planting space (raised, in ground, or pots)
- Bean Seeds
- Garden gloves (optional)
- Trowels (optional)
- Watering buckets



## VOCABULARY

- Cover crops
- Nitrogen
- Nitrogen Fixation
- Companion planting

## DISCUSSION MATERIAL

[The nitrogen cycle \(article\) | Ecology | Khan Academy](#)

## INTRODUCTION

Nitrogen is everywhere! In fact, N<sub>2</sub> gas makes up about 78% of Earth's atmosphere by volume, far surpassing the O<sub>2</sub> we often think of as "air". But having nitrogen around and being able to make use of it are two different things. Your body, and the bodies of other plants and animals, have no good way to convert N<sub>2</sub> into a usable form. We animals—and our plant compatriots—just don't have the right enzymes to capture, or fix, atmospheric nitrogen. Still, your DNA and proteins contain quite a bit of nitrogen. Where does that nitrogen come from? In the natural world, it comes from bacteria!



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## PROCEDURE

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## MATERIALS

- Garden planting space (raised, in ground, or pots)
- Bean Seeds
- Garden gloves (optional)
- Trowels (optional)
- Watering buckets



## VOCABULARY

- Cover crops
- Nitrogen
- Nitrogen Fixation
- Companion planting

## DISCUSSION MATERIAL

[The nitrogen cycle \(article\) | Ecology | Khan Academy](#)

## INTRODUCTION

Nitrogen is everywhere! In fact, N<sub>2</sub> gas makes up about 78% of Earth's atmosphere by volume, far surpassing the O<sub>2</sub> we often think of as "air". But having nitrogen around and being able to make use of it are two different things. Your body, and the bodies of other plants and animals, have no good way to convert N<sub>2</sub> into a usable form. We animals—and our plant compatriots—just don't have the right enzymes to capture, or fix, atmospheric nitrogen. Still, your DNA and proteins contain quite a bit of nitrogen. Where does that nitrogen come from? In the natural world, it comes from bacteria!



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Bacteria play a key role in the nitrogen cycle. Nitrogen enters the living world by way of bacteria and other single-celled prokaryotes, which convert atmospheric nitrogen— $N_2$ —into biologically usable forms in a process called nitrogen fixation. Some species of nitrogen-fixing bacteria are free-living in soil or water, while others are beneficial symbionts that live inside of plants.

Nitrogen-fixing microorganisms capture atmospheric nitrogen by converting it to ammonia— $NH_3$ —which can be taken up by plants and used to make organic molecules. The nitrogen-containing molecules are passed to animals when the plants are eaten. They may be incorporated into the animal's body or broken down and excreted as waste, such as the urea found in urine.

Source credit: [The nitrogen cycle \(article\) | Ecology | Khan Academy](#)



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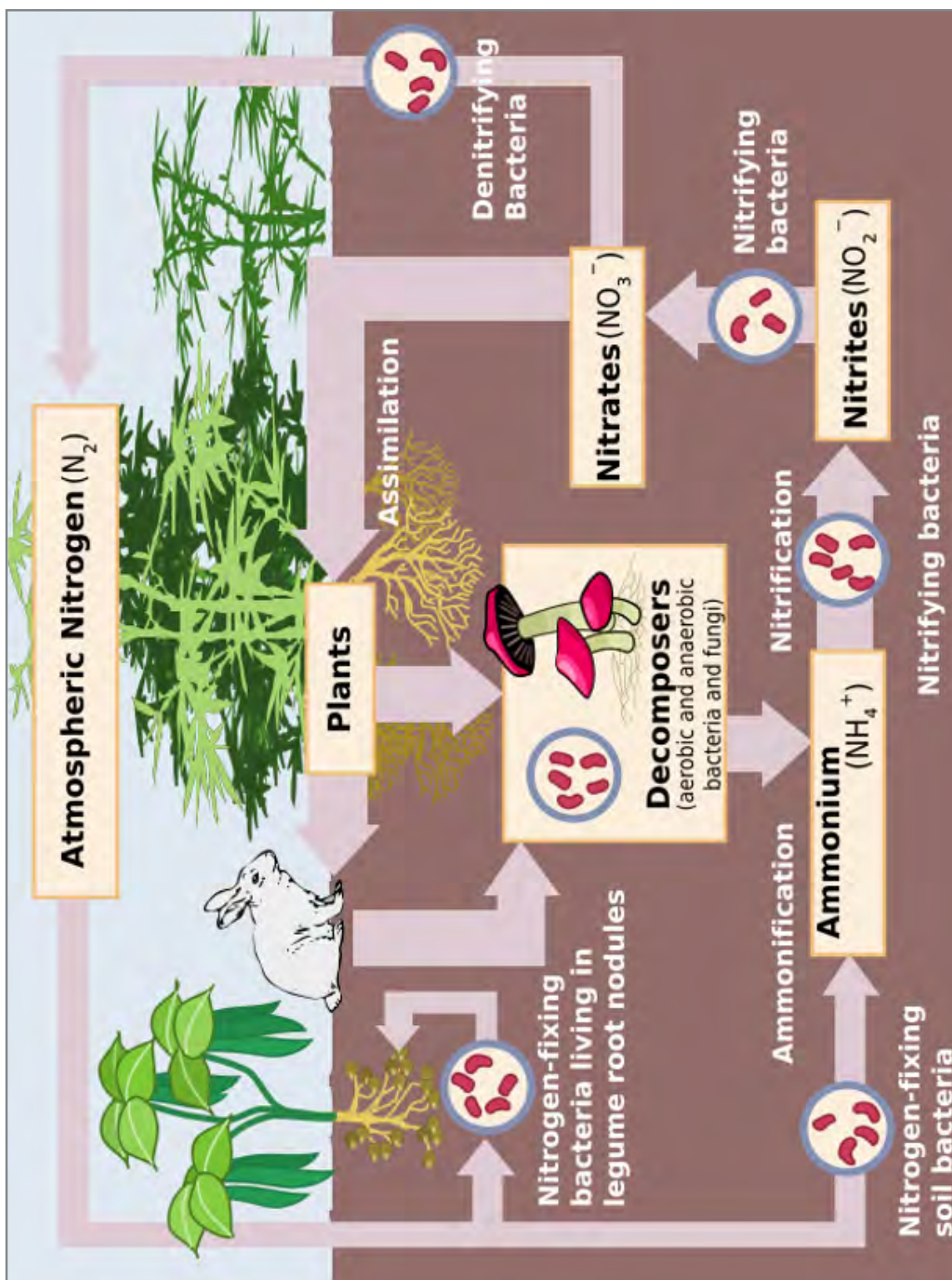


Image credit: from Nitrogen cycle by Johann Dréo (CC BY-SA 3.0)




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# WHAT SHOULD WE PLANT?

Garden

Grade 6 • 45 mins • Fall, Winter, Spring, Summer • Indoor and Outdoor 

ADAPTED

GRADE 6

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

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## ? ESSENTIAL QUESTIONS

- When can we plant different crops in our garden? Why is it important to plant within the suggested window— what factors are involved ( temperature, hours of daylight, days to maturity, etc)?
- How do we use a regional planting guide?
- What weather conditions might affect the success or failure of a plant/crop?
- How does our region’s geographical location influence what we can plant?
- How are conditions different in other regions and why?

## MATERIALS

- Seeds in labeled packets
- Trays, pots, or a designated garden location that is prepared for planting and measured to accommodate the number of plants/students
- [LSU planting guide](#) (1 per student) and/or laminated USDA map (color copy)
- Planting table
- Dry erase markers
- Eraser
- Measuring tools for proper planting
  - Rulers
  - Tape measure
  - Seed depth measurement tool
- Popsicle sticks
- Sharpie markers to label plants

## Abc VOCABULARY

- Region
- Direct Seed
- Sow
- Transplant
- Harvest/Maturity

### NOTE:

Adapted from **Grade 6 Garden Lesson #5: Why Do We Have the Foods We Do?**, pg 204.





## ASSESSMENT

**Observational Checklist**

- Students place fingers on the planting guide table in the correct columns and rows to obtain the information (given a crop students can locate: the planting date for our region, the plant spacing, the planting depth, and days to harvest)
- Students can determine if it is an appropriate date to plant seeds for a given crop using the guide
- Students use measurements for appropriate seed/plant spacing in the garden
- Students use tools to plant seeds to the correct depth in the garden and in containers or trays

## PREPARATION (40 MINS)

Photocopy and laminate the USDA Region Map and Planting Table from the LSU planting guide. Organize all planting materials and designate a space for planting in the garden.

## TEACHER BACKGROUND

The teacher should familiarize themselves with the LSU planting guide and have an understanding of the climate of their region.

## LESSON DESCRIPTION

Students will use a regional planting guide to determine which seeds we can plant in our garden based on the date and our geographic location. Students will work together to find information in the guide, then use that information to plant and label crops in trays, containers, or directly in the garden.

## LEARNING OBJECTIVES

**Content Learning Objectives***Garden and Food Systems*

**GFS.6.2** Understand what foods grow best in your specific geographic location

**GFS.6.5** Define local and seasonal eating

**Life Skills Learning Objectives***Personal Life Skills*

**PLS.1** Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.

**PLS.2** Students are able to express empathy and caring for themselves, others, and the environment.

**PLS.3** Students cultivate honest and responsible behaviors that contribute to the learning of the community.

**PLS.6** Students actively seek creative and resourceful solutions.

*Community Life Skills*

**CLS.4** Students appreciate and are respectful of differences and diversity in their communities

## ACADEMIC STANDARD CONNECTIONS

**NGSS.6.ESS2.D Weather and Climate**—Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next.

**CCSS.ELALITERACY.RI.6.7** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

*Lesson Sequence**Engage***Cultivate Curiosity:**

Timed Pair Share: If you could grow any 3 fruits or vegetables in your garden, what would you choose?

Whole group share: Call on students to answer the following:

- Name a fruit or vegetable you would like to grow. (Students can use the silent connection sign to agree.)
- What will (example crop such as broccoli) need to grow? (elaborate on types of soil, hours of sunlight, temperature, amount of rain etc)
- What time of year does broccoli grow and how long does it take?
- Can you think of something that would not grow here in Louisiana—why not?

*Explore***Root Around:**

- Distribute and discuss the USDA zone map and ask the following questions:
- What do you notice about the map? What do you think the map shows us? What do the colors on the map represent? Why would this be useful to gardeners and farmers? (We'll revisit this throughout the year) Can you find our state on the map? Can you find a state with a much colder climate on the map? Can you find an area with a similar climate? How would these temperature differences affect what and when a grower might plant?

*Explain***Grow Understanding:**

- Distribute and Discuss Planting Table: 10 minutes
- Allow students to look over and discuss the planting table. Review column headings together and define. How is the first column organized? (alphabetical by crop). Discuss direct seed vs. plants—what does this mean? (Direct Seed is a seed planted right into the garden, plant means we transplant a plant that was started a few weeks prior). Find the correct column (South La Planting Dates Fall) and Determine which crops we can plant in the garden/in a tray for later transplanting.

*Elaborate***Observe The Fruits:**

Give each group several packs of seeds, ask them to find the planting dates for our region to determine which crops we can plant today. Review the plant spacing, seed depth, and days to maturity/harvest. Students should also determine whether to plant in the ground or in a tray/container for later transplanting. Students can then plant the seeds and label them using a popsicle stick and marker.

Record what we planted today on a large calendar and its location on the garden map if applicable. Students record this information in their journals.

*Evaluate* **Reflect:**

- What did you enjoy about today's class, what was your favorite part?
- Did anything about our class surprise you? Did you learn any new information or skills in class today? What could you teach someone based on what we did today?
- What connections can you make between what we did today and the kitchen?
- How did you or a classmate show a school value or honor our garden agreements?

**ADAPTING FOR INDOORS**

Plant seed in trays or containers for transplanting into the garden at a later date. Create a monthly planting calendar for our region. Assign each group a month of the year.

**CONNECTIONS TO KITCHEN LESSONS**

In the garden, discuss common meals in your state that include the top 3 crops. Contrast with common meals in a state with a very different climate.

**POSSIBLE EXTENSIONS**

**Community:** Take a look at local weather reports to discuss the weather and the climate (and the difference between the two). Invite local farmers in to discuss how the climate affects their decision making on the farm.

**OTHER COMMENTS**

It is sometimes challenging for students to convert the numeric date format used in the planting table to the month of the year. If time allows be sure to discuss the source of the planting guide—your local agricultural extension office and its connection to the university. Provide students with the printed guide to take home if they would like one and the link to the website for future reference.

# APIACEAE PLANT FAMILY

Garden

## UNIT DAY/LESSON

Apiaceae plant family (carrots, cilantro, celery, etc.)

NEW!

GRADES 7–8

SCHOOL PARTNER  
LESSON PLAN

## SUBJECT

Science/Botany

## STATIONS

1. Introduction to the Apiaceae Family of plants (carrots, celery, parsley, dill, cilantro). See handouts at end of lesson.
2. Discussion of Apiaceae plant shared characteristics & observation exercise to determine variations between species that have emerged due to evolutionary genetic adaptations Shared characteristics: 5 petals, 5 stamen, compound umbels with flat tops, hollow stems, alternating leaves along stem, dicots
3. Discussion of seed planting depth according to size of seed
4. Hypothesize texture of the soil needed for a root vegetable
5. Review of seed germination needs
6. Visit garden to plant carrots, observe cilantro & parsley. Refer to the *Carrots* publication for tips and trick for proper planting techniques.
7. Review of plant characteristics and formulation of hypothesis of yield or making a plan for care:

## ACADEMIC STANDARD CONNECTIONS

**8-MS-LS1-4** Reproduction of Living Things

**7-MS-LS4-4** Natural Selection

**L-MS-LS2-5** Maintaining Biodiversity

**7-MS-LS2-5:** Examples of ecosystem services



## MATERIALS

- Garden planting space (raised, in ground, or pots)
- Seeds (carrots)
- Garden gloves (optional)
- Trowels (optional)
- Watering buckets



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Belle Chasse Academy in 2023

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**Abc** VOCABULARY

- Apiaceae Family
- Genetic variations
- Evolutionary adaptations
- Root vegetables

DISCUSSION MATERIAL

Hypothesis and garden observation worksheet:  
[Caring for Your Carrots Handout](#)

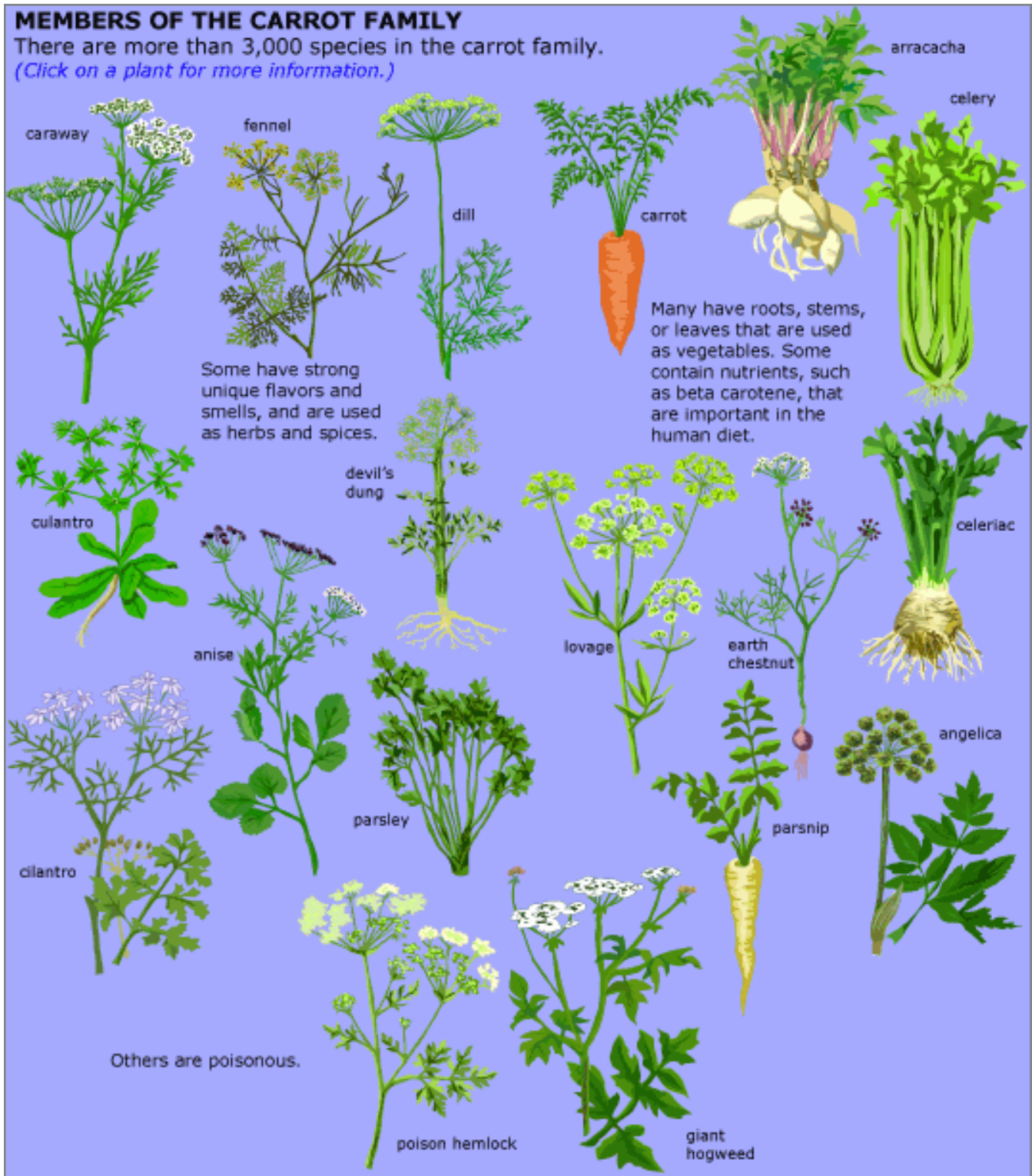
Planting and fertilizing tips:  
[pub 3000 carrotspdf.pdf \(lsuagcenter.com\)](#)

Identifying characteristics:  
[Five-minute families—Apiaceae—YouTube](#)



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Members of the Apiaceae Family,  
 Source [United States Botanical Gardens, The Carrot Family Apiaceae.jpeg](#)



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Shared Characteristics: Source Botany in a Day, Thomas J. Elpel. Apiaceae: Parsley or Carrot Family. Identify herbs, plants, and flowers. (wildflowers-and-weeds.com)



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Your Name \_\_\_\_\_

**Caring For Your Carrots!**

1) Planting Date: \_\_\_\_\_

	Your Hypothesis....	Record your observations....
2) Seed germination date:		
3) Frequency of watering:		
4) Frequency of fertilization:		
5) Harvest date:		



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## CARROTS

*James E. Boudreaux*

Carrots are a popular vegetable in the home garden. Freshly harvested carrots have a sweeter flavor than carrots bought in the store. Carrots are cold hardy and able to withstand freezing temperatures, which makes them valuable as a fresh vegetable that gardeners can enjoy during the winter months. Carrots can stay in the field for a long time. One planting can easily provide carrots for eight to 10 weeks.

Both a fall and spring crop can be planted. Carrots can be planted from mid-August to early March. Plantings made in mid-August to early October are ready for harvest in late November to February/March, and plantings made in January and February can be harvested in April and May.

Use fresh carrot seeds. Fresh seeds germinate well, resulting in good stands. Store carrot seeds in the freezer. Do not seed carrots too thickly. Crowded stands result in small roots and delay growth. The use of a hand push planter helps obtain the desired spacing. Carrots should be thinned to one plant every 1-2 inches. A trick that gardeners can use to obtain a desired stand is to mix dead seed and live seed together. Carrot seeds are easily killed by baking the seeds in the oven at 400 F for 10-30 minutes. This mixture can then be used to plant the carrots in the garden either by hand or with a planter. Another trick to use to avoid planting carrots too thickly is to spread a mixture of 1 part carrot seeds with 3 or 4 parts soil or sand. Two drills of carrots (spaced 12 inches apart) can be planted on a single row.

Both hybrid and open-pollinated varieties are recommended. Hybrid carrot varieties generally are more uniform and have brighter color than open-pollinated varieties .

### Recommended carrot varieties

#### Open-pollinated Varieties

Danvers 126

#### Hybrid Varieties

Apache  
Choctaw  
Enterprise  
Maverick  
Tasty Peel

For preplant fertilizer, use 4-5 pounds of 13-13-13 or 8-24-24 per 100-foot row. Side-dress carrots twice, three to four weeks after planting and again three to four weeks after the first with 1-2 pounds AmNO<sub>3</sub> or 2-4 pounds CaNO<sub>3</sub> per 100-foot row. Harvest carrots once the roots reach 4-6 inches.

Carrots are subject to compacted soils, which can cause deformed, stubby roots. Adding organic matter and breaking the ground deeply (18-24 inches) before planting will lessen the problem of deformed roots.



Source credit: [Carrots](#)



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# DESIGNING IMPROVED COMPOSTING SYSTEM

Garden

Grade 8 • 140 mins

Fall, Winter, Spring, Summer • Indoor and Outdoor



NEW!

GRADE 8

SCHOOL PARTNER  
LESSON PLAN

## SUBMITTED BY

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## ESSENTIAL QUESTIONS

- How can we better recycle organic waste?



## MATERIALS

- Compost Project Packet (Do not print pages 5 & 7)
- 2 liter soda bottles (up to 2 per group)
- Food detritus for composting
- Tacks (air holes)
- Tape (clear packing tape)
- 1 item of choice (from home with teacher approval)
- Mesh wire
- Coffee filters
- Wire
- String



## VOCABULARY

- Compost
- Decomposition
- Aerobic respiration
- Anaerobic respiration



## ASSESSMENT

**Observational Checklist** and Student Design Plans

## PREPARATION

Teacher needs to start collecting two liter bottles a few weeks in advance.



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## TEACHER BACKGROUND

Teacher should have understanding of the needs of composting systems, engineering design principles, and cellular respiration.

## LESSON DESCRIPTION

Students will learn about composting and design, build, and test two-liter mini composting systems.

## LEARNING OBJECTIVES

- I can apply scientific principles to design a method for monitoring and minimizing human impact on the environment.
- I can work in teams to compromise on solutions to problems.

## Life Skills Learning Objectives

*Community Life Skills*

**CLS. 1** Students demonstrate problem solving and resolve conflict as a team.

## ACADEMIC STANDARD CONNECTIONS

**8-MS-ESS3-3:** Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.

## HEALTH STANDARD CONNECTIONS

**4-M-1.3** Describe effective strategies for dealing with difficult relationships with family members, peers and boyfriends or girlfriends.

*Lesson Sequence**Engage***Cultivate Curiosity (10 mins):**

Students are brought downstairs and given a brief explanation and viewing of BCA's compost system.

*Explore***Root Around (60 mins):**

Students will work in groups of 3–4 to design and build miniature composting systems. They should use their understanding of aerobic and anaerobic respiration to aid in this process.

*Explain***Grow Understanding (40 mins):**

Students will answer a set of questions in their research packets about the fundamentals of design including Engineering Design, Composting, Aerobic Respiration, and Anaerobic Respiration.



*Elaborate* **Observe The Fruits (30 mins):**

Students will design an experiment to test the quality of their composting systems using food detritus from the school kitchen and cafeteria.

*Evaluate* **Reflect (10 mins):**

Students will observe the decomposition of their food detritus over the next few weeks and analyze the relative success of their design systems, reflecting on the design principles that led to their relative quality. This will take ten minutes per day on days following the placement of the composting systems.

**ADAPTING FOR INDOORS**

Most work can take place indoors except for the placement and observation of composting systems.

**CONNECTIONS TO KITCHEN LESSONS**

Food waste from all other kitchen lessons can be composted using these systems.

**POSSIBLE EXTENSIONS**

Any idea for improved composting can then be applied to the larger schoolwide composting system.

**ADDITIONAL RESOURCES**

Google search for composting system plans.

**OTHER COMMENTS**

This lesson will take two days.



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2020–2023



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*Kitchen*

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Grades Pre-K–K • 30 mins • Fall

ADAPTED

GRADES PRE-K–K

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

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 VOCABULARY

- Claw and saw
- Low and slow
- Slice

 ASSESSMENT

- **Observational Checklist**



MATERIALS

### Materials for Introduction

- Certification check-list print outs
- Paring knives
- Cutting boards
- Lettuce knives
- A variety of other knives,
- Cucumbers
- Bus tubs per station
- Small paper plates for eating
- Vegan non-sesame dressing for dipping

### Equipment

*For each group of 10*

- Paring knives
- Cutting board
- Lettuce knives
- A variety of other knives

### Ingredients

- Cucumbers
- Vegan non-sesame dressing for dipping

### Materials for Enjoying the Food

- Small paper plates

### Materials for Cleaning Up

- Bus tubs

#### NOTE:

Adapted from **Grade 3 Kitchen Lesson #3: Getting Started with Paring Knives**, pg. 516.

## PREPARATION (5 MINS)

Gather materials and place in station bus tubs. Slice cucumbers lengthwise in half so that there is a flat side. While cooking can be a highly engaging and educational activity, it can also be dangerous. This is particularly true when using kitchen knives. Nonetheless, by effectively establishing procedures at the outset and sufficiently supervising students, students can safely use kitchen knives to participate in a wide variety of food preparation activities.

When students are using knives, particularly for the first time, we recommend having them work in groups of 10 or fewer with 1 or more adults. You can do this by running a cutting station while other students work independently on a separate project, or by inviting other adult volunteers to supervise small groups.

## TEACHER BACKGROUND

It is a little scary to teach knife skills because kids get very excited and like to show off. Prepare a presentation of demonstrating correct and incorrect form. Prior to this lesson, review **Getting Started with Paring Knives** and make sure that there is more than one adult in the room to observe.

## LESSON DESCRIPTION

The teacher will demonstrate knife safety and knife use skills to students and students will practice knife safety and cutting skills using various knives.

## LEARNING OBJECTIVES

**Life Skills Learning Objectives***Community Life Skills*

**CLS.2** Students cooperate and communicate well with each other.

*Lesson Sequence***Prepare to Cook (5 mins):**

Wash hands, put on aprons, tie hair back.

**Recipe Introduction (5 mins):**

Show the students a variety of knives/cutting tools and a cucumber. "Which one of these tools should I use today to slice a cucumber? Why?" Let the students offer their opinions.

**Review Familiar Skills (5 mins):**

- Reiterate to students that to use tools, it is important to understand how they work and how to use them safely, particularly if the tools are sharp and could be dangerous, like knives. Explain to students that using knives is a privilege, and if anyone is playing with them or not being safe, that privilege will be taken away in order to keep everyone safe.

- Let students know that practicing with knives safely will get themselves “certified” in the classroom for future knife use. If someone is deliberately not using the knives in a safe way, they will not be certified for the next class. The certification sheet is a checklist that the adults will use as they observe students.

**Demonstrate New Skills (10 mins):**

- Make sure knives are out of reach of students while you introduce and discuss them. Demonstrate how to pick up and hold a knife properly, then return it to its “home base” (the cutting board). Model for students—does the knife go on the counter? on the floor? on your notebook? on a friend? on your lap? (No, only on the cutting board). The only other place it will go is in the bus tub when students are completely finished with their task.
- Also, demonstrate how their other hand will be holding their fruit or vegetable like a “claw” with their fingers tucked. Students can remember these 2 cues by the phrase “claw and saw.” Another helpful phrase to encourage a safe motion with the knife is “low and slow.” Students may have seen cooking shows where chefs use a fast chop but remind students that in our class we will be using a “claw and saw” and will be doing it “low and slow.”

**Divvy Up Tasks (5 mins):**

- Request that one student per each group of 10 retrieve cutting boards for all of the students at their table. When everyone has returned to their seats, deliver a bus tub of knives to each table.
- Demonstrate for students how to slice their cucumber approximately every 1/2 inch. Introduce the vocabulary slice which is a specific way to cut something (can be used as either a verb or a noun to describe the result of this cut). On your cue, provide time for students to slice their cucumber and then carefully place their knives in the bus tub when they are finished.

**Cook (10 mins):**

On your cue, provide time for students to slice their cucumber and then carefully place their knives in the bus tub when they are finished. Walk around the classroom and observe students with the certification checklist.

**Enjoy (10 mins):**

While eating, students will each have cucumbers and a dressing to dip. While eating they can discuss.

**Clean Up (10 mins):**

Before eating, all knives must be “cleaned up” by placing them in the bus tub with the cutting boards. The cleaning helpers will bring the tubs to the dishwashing sink to soak. Students may dispose of trash when lining up.

**Reflect (10 mins):**

While eating they can discuss the questions “What was challenging? How can we help each other stay safe while using knives?”

# MAKING APPLESAUCE

Kitchen

Grades Pre-K–K • 30 mins • Fall

ADAPTED

GRADES PRE-K–K | SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Lola Bloom • lbloom@dcbilingual.org



ESSENTIAL QUESTIONS

- How do we use tools safely?



VOCABULARY

- Claw and saw



ASSESSMENT

- **Observational Checklist**



MATERIALS

## Materials for Introduction

- Cutting boards
- Lettuce knives
- Pre-cored and sliced (into 1/8) apples
- Bus tubs
- Paper towels
- Bowls
- Large pot
- Cinnamon
- Sugar
- Lemon juice
- Paper
- Crayons

## Equipment

*For each group of 10*

- Cutting Boards
- Lettuce knives
- Bus tubs
- Bowls
- Large pot
- Paper
- Crayons

## Ingredients

- Pre-cored and sliced apples
- Cinnamon
- Sugar
- Lemon juice

## Materials for Enjoying the Food

- Bowls
- Spoons

## Materials for Cleaning Up

- Paper towels

### NOTE:

Adapted from **Grade 2 Kitchen Lesson #3: Make-Yourself-Some Applesauce**, pg. 290.



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## PREPARATION (30 MINS)

Gather ingredients and place cooking tools in 4 bus tubs (one per table). Prepare a visual on cutting apples. Hook up the document camera to the large screen to project.

## TEACHER BACKGROUND

This is an introductory cutting class for little ones, which is why we will be using the lettuce knives (plastic zyliss) to teach knife techniques. Review a recipe on applesauce. Let teachers know that the applesauce will be served later in the day, since it will not completely cook during the class time

## LESSON DESCRIPTION

Students will practice knife skills while preparing applesauce as a class.

## LEARNING OBJECTIVES

**Content Learning Objectives***Food Preparation*

**FP2.1:** Demonstrate ability to properly handle, wash and prepare fruits and vegetables using tools and equipment.

*Lesson Sequence***Prepare to Cook (5 mins):**

Wash hands, put on aprons.

**Recipe Introduction (5 mins):**

What can you do with apples besides eat them raw? How can tools help us make delicious recipes?

**Review Familiar Skills (5 mins):**

- Reiterate to students that to use tools, it is important to understand how they work and how to use them safely, particularly if the tools are sharp and could be dangerous, like knives. Explain to students that using knives is a privilege, and if anyone is playing with them or not being safe, that privilege will be taken away in order to keep everyone safe.
- Let students know that practicing with knives safely will get themselves “certified” in the classroom for future knife use. If someone is deliberately not using the knives in a safe way, they will not be certified for the next class.
- The certification sheet is a checklist that the adults will use as they observe students.
- Wash hands.

**Demonstrate New Skills (10 mins):**

Demonstrate on document camera how to use the lettuce knives to safely cut apples.

**Divvy Up Tasks (10 mins):**

Pass out the lettuce knives and cutting boards (one per every 2–3 students, not everyone needs a knife at the same time) and instruct the students to pretend that they are cutting an imaginary apple. Observe and correct as needed.

**Cook (10 mins):**

Next pass around the apple slices and instruct students to each carefully cut the apple into smaller pieces. Each partner is responsible for helping to encourage and watch their partner as they use the tools safely. While they work, ask the students, “what other fruits or vegetables could we cut in the same way? How do we correctly hold the knives? How did you get better at cutting today?”

Once all of the apples are cut, the students may add them to a large bowl at each table. Once all of the apples are in bowls, the teachers will dump the apples and other ingredients into a stock pot to slowly cook into applesauce.

**Enjoy (10 mins):**

The students will be told that the applesauce takes time to cook and they will receive it for afternoon snack that day. While the applesauce gets cooked in class, pass out paper and crayons to draw themselves cutting apples.


**Clean Up (5 mins):**

Student groups will return knives and cutting boards to bus tub.

**Reflect (5 mins):**

While they work, ask the students, “what other fruits or vegetables could we cut in the same way? How do we correctly hold the knives? How did you get better at cutting today?”

---

NEW! GRADE K						
Lesson	Topic	Content Learning Objective(s)	Lesson Activity	Life Skills Learning Objective(s)	Academic Standard Connections	Health Standards
Blue Corn Pancakes with Blueberries and Honey 	Food Preparation (FP)	<p><b>FP.K.1</b> Demonstrate the ability to properly handle, wash and prepare fruits and vegetables.</p> <p><b>RC.K.2</b> Recognize how families share and maintain food and cultural traditions.</p> <p>Demonstrate how the Native Americans utilize every part of an ear of corn and prepare a Native dish using corn</p>	<p>Engage students by asking them to state some facts they have previously learned about Native Americans. Next, have students explore an ear of corn. Once each student has done so, read <i>Corn</i> by Gail Gibbons to further explain the history and significance of corn in the Americas.</p> <p>Have students elaborate on the lesson by preparing the pancake using blue cornmeal. Once each student has tried the pancake, evaluate the lesson by asking questions about something new they have learned about corn.</p>	<p><b>CLS.4</b> Students appreciate and are respectful of differences and diversity in their communities.</p>	<p><b>CCSS.ELA-LITERACY.SL.K.6</b> Speak audibly and express thoughts, feelings, and ideas clearly.</p> <p><b>CCSS.ELA-LITERACY.SL.K.4</b> Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.</p> <p><b>Social Studies Culture.</b></p>	<p><b>National Health Education Standard 7:</b> Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.</p>



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# BLUE CORN PANCAKES WITH BLUEBERRY HONEY

*Kitchen*

Yield: 12—4 inch pancakes



GRADE K | SCHOOL PARTNER  
LESSON PLAN

Prep Time: 10 minutes

Cook Time: 5 minutes

## INGREDIENTS

- 1 ½ cups all purpose flour
- 1 cup blue cornmeal
- ½ cup sugar
- 1 ½ teaspoons baking soda
- ¾ teaspoon baking powder
- 3 eggs
- 1 ½ cups buttermilk\*
- 2 tablespoons butter, melted
- 1 ½ cups fresh or frozen blueberries

## DIRECTIONS

1. In a bowl, mix the first 5 ingredients—flour through baking powder together.
2. In a separate bowl, beat the eggs with the buttermilk \* until well blended.
3. Pour egg mixture over flour mixture and stir until just mixed (small lumps are OK, and for tender cakes, it's better to under mix than over mix).
4. Stir in melted butter and blueberries. The batter will be very thick.
5. Heat a griddle or nonstick skillet over medium heat. Brush with butter or spray with nonstick spray.
6. Ladle ¼ cup of batter for each pancake onto hot surface. Cook until edges start to dry and bubbles burst on surface, about 2 to 3 minutes.
7. Flip and cook on the other side until brown, about another minute or so. Keep warm in a 200°F oven until all the cakes are cooked. Serve with honey.

\*For dairy-free sub buttermilk and butter for dairy-free milk or water



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ADAPTED

GRADES K—1

SCHOOL PARTNER  
LESSON PLAN

Lesson Title: Discovering Food Groups		
Grade: K-1	Lesson Number: 7	
Estimated Time: 45 mins.	Season:  Winter	Type:  Cooking Concept
<p> <b>Teacher Background and Lesson Description:</b> To help people make smart food choices, the U.S. Department of Agriculture (USDA) designed an easy-to-follow symbol: MyPlate. The plate graphic, with its different food groups, is a reminder of what — and how much — we should put on our plates to eat healthy. <u>In this lesson</u>, students will be introduced to the major food groups. Students will work in small groups to sort foods into the major food groups, make a snack using all of the food groups, and describe their favorite meal in terms of the group(s) represented.</p>		
<p> <b>Lesson Objectives:</b> HC.K.3 Name a food group. HC.K.4 Identify a food group in the garden. CLS.4 Students appreciate and are respectful of differences and diversity in their communities.</p>		
<p> <b>Academic Standard Connections:</b> CCSS.ELA-LITERACY.L.K.5.A Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. CCSS.MATH.CONTENT.K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</p>	<p> <b>Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.</p>	
<p> <b>Essential Questions:</b> What are the major food groups? What food items belong in each group? What food groups are represented in my favorite meal?</p>		





**NOTE:**


Adapted from **Grade K Kitchen Lesson #9: Discovering Food Groups**, pg. 262.



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 Vocabulary: food group(s), fruit(s), vegetable(s), grain(s), protein(s), dairy, represented	
 Materials:	
<p>Lesson Introduction:</p> <ul style="list-style-type: none"> <li>● <a href="#">MyPlate graphic</a></li> <li>● <a href="#">Food groups poster</a></li> <li>● <a href="#">Recipe</a>: Food Group Friend</li> </ul>	<p>Equipment:</p> <p>For whole class: (if choosing to show optional video)</p> <ul style="list-style-type: none"> <li>● TV/Screen</li> <li>● Computer</li> <li>● <a href="#">MyPlate template</a> (1 per student)</li> <li>● <a href="#">MyPlate pledge</a> (1 per student)</li> </ul> <p>For each group:</p> <ul style="list-style-type: none"> <li>● <a href="#">Food picture cards</a> (set can be split between two groups)</li> <li>● Chart or butcher paper (divided into 5 sections)</li> </ul>
<p>Ingredients:</p> <ul style="list-style-type: none"> <li>● Plain rice cakes</li> <li>● Sliced bananas</li> <li>● Blueberries</li> <li>● Red apple slices</li> <li>● Red bell pepper slices</li> <li>● Sliced cucumbers</li> <li>● Almonds</li> <li>● String or shredded cheese</li> </ul>	
<p>Materials for Enjoying Food:</p> <ul style="list-style-type: none"> <li>● Plates</li> </ul>	<p>Materials for Cleaning Up:</p> <ul style="list-style-type: none"> <li>● Trash, recycling, and compost bins</li> <li>● Sponge (for counters)</li> <li>● Broom and dustpan</li> </ul>
 Assessment: Observations, food sorting activity, MyPlate activity	
 Teacher Prep: <ul style="list-style-type: none"> <li>● Gather books and other materials.</li> <li>● Print and laminate MyPlate and food groups poster for display.</li> <li>● Print and cut food picture cards.</li> <li>● Divide the chart or butcher paper into five sections. Label each section with one of the food groups (fruits, vegetables, grains, protein, dairy).</li> <li>● Prepare/pre-cut foods with enough for each student to make a “food group friend.”</li> </ul>	
<p>+ Additional Resources:</p> <p>For more information, games, tips, and resources for kids, see:</p> <ul style="list-style-type: none"> <li>● <a href="#">MyPlate-U.S. Department Of Agriculture</a></li> <li>● <i>Your Healthy Plate...</i>book series by Katie Marsico</li> </ul>	

 Engage: Ignite Interest


- Prompt students to think of things that can be sorted or times when they have sorted things. Take a few responses.
- Let students know that today the class will learn about a way that foods can be sorted.
- Introduce the five major food groups (fruits, vegetables, grains, protein, dairy) using a visual ([ENG/SPA](#)). Discuss some of the items in each group. Why should we eat foods from each of the five groups? Are some of the food groups better than others?
- Explain [MyPlate graphic](#).
  - MyPlate has sections for vegetables, fruits, grains, and protein foods, as well as a "cup" on the side for dairy. Color-coded sections — green for veggies, red for fruits, orange for grains, purple for protein, and blue for dairy — show at a glance how much of these foods to eat.
  - MyPlate reminds us to:
    - Choose variety: The best meals have a balance of items from different food groups.
    - Make half of your plate vegetables and fruits.
    - Make at least half of your grain serving whole grains.
    - Drink fat-free or low-fat (1%) milk and water instead of soda, sports drinks, and other sugary drinks.
    - Avoid large portions.
- Optional: Watch [SciShow Kids: The 5 Fabulous Food Groups](#)

 Explore: Stir Discoveries




- Pass out a piece of chart or butcher paper and a set of [food picture cards](#) to each small group.
- In their group, students will sort the picture cards provided into the five food groups.
- Complete a gallery walk and discuss with students.
  - Are you familiar with all of the foods in your set of cards?
  - Were any of the foods tricky to sort?
  - Are there any foods in your set of cards that you've never tried, but would like to?
  - Can any of the foods in your set be found in our school garden?

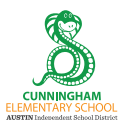
 Explain: Clarify New Ideas

- Ask students about their favorite meal. Take a few responses.
  - What food groups are represented in your meal?'
- Individually students will complete the [MyPlate template](#) for their favorite meal.

 Elaborate: Watch It Rise

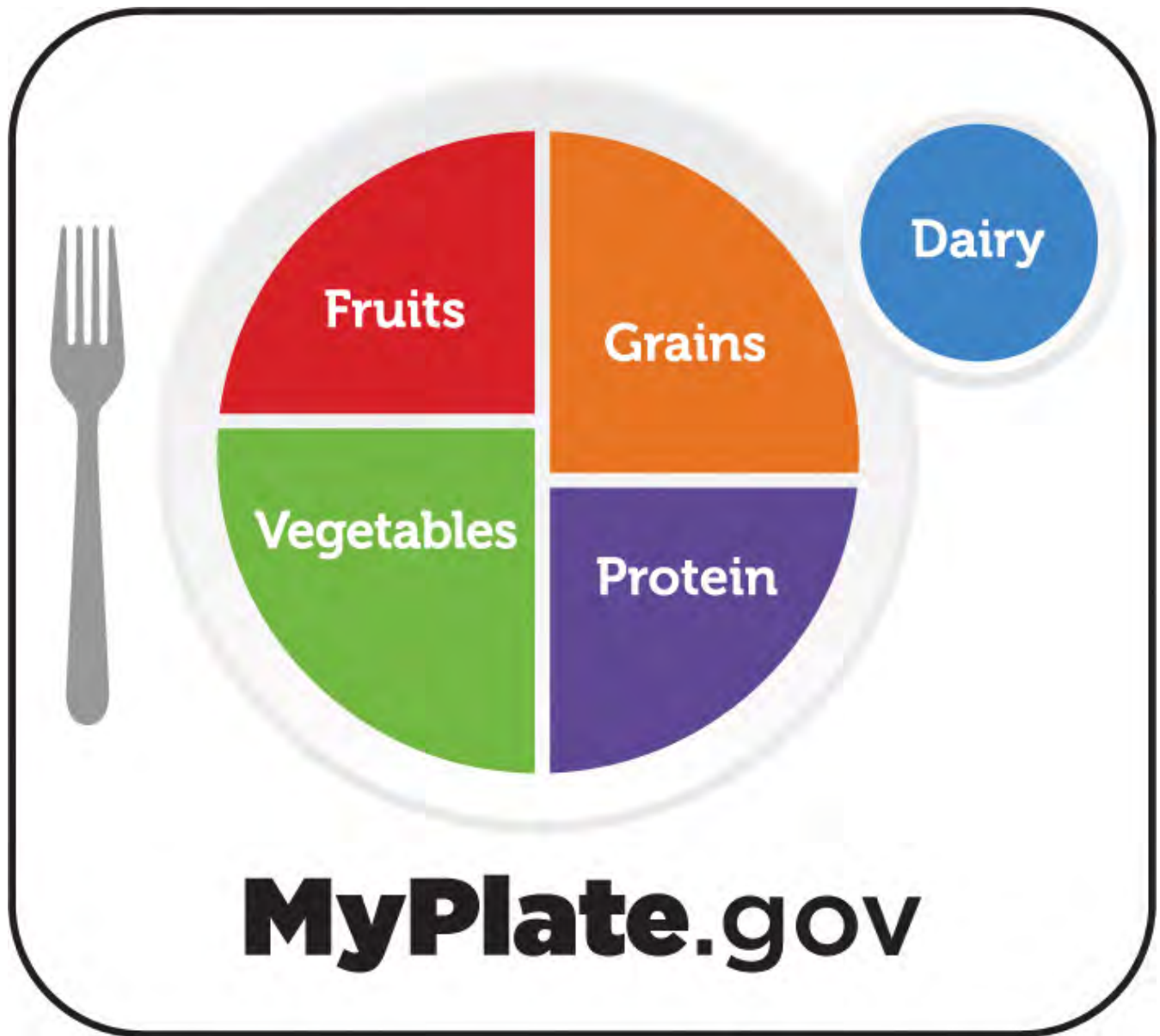
- While students work on creating their ideal meal/plate, call one small group at a time to make their "[food group friend](#)."
- Once their snack is made, students can return to enjoy it at their table and continue working.

<p> Evaluate: Reflect</p> <ul style="list-style-type: none"> <li>• Complete <a href="#">MyPlate pledge</a>.</li> <li>• Recognize students' behaviors that aligned with the enduring understandings that they developed together with the goal of being the best for themselves, their communities, and their environment.</li> <li>• Share appreciation for each of their individual contributions to the kitchen and to the community, and for their respect for the kitchen. Express excitement for your next time together.</li> <li>• Dispose of waste in the appropriate bins and have a few students help to wipe down counters/tables and sweep any trash.</li> </ul>	
<p> Connections to Garden Lessons: Look for food groups growing in the garden.</p>	<p> Possible Extensions: Identify the food groups in a school lunch.</p>



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Source credit: [My Plate](https://www.myplate.gov)



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**USDA** Food and Nutrition Service  
U.S. DEPARTMENT OF AGRICULTURE

# The Five Food Groups

**Fruits**

**Vegetables**

**Grains**

**Protein Foods**

**Dairy**

**Activity Area**

Source: USDA Food and Nutrition Service

Source credit: [USDA Food and Nutrition Service](https://www.fda.gov/food/food-groups)



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**Los cinco grupos de alimentos**



**Área de actividad**


 Fuente: USDA - National Health and Medical Research Council. Todos los derechos reservados.

Source credit: [USDA Food and Nutrition Service](https://www.fda.gov/food/food-and-nutrition-service)



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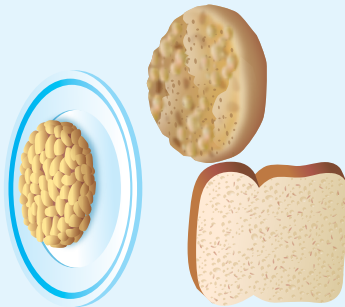
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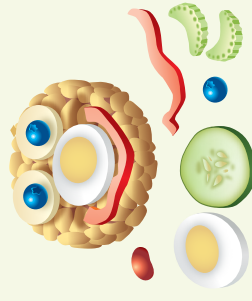
# Food Group Friend

## 1 Get a Head



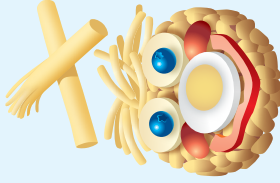
Put a grain on your plate.

## 2 Make a Face



Pick fruits, vegetables, and a protein food to make eyes, nose, and a mouth. Have fun and be colorful!

## 3 Hair or Hat?



Choose a dairy food and cover the head.

## 4 Name Your Friend



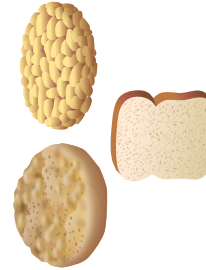
Have you used a food from each food group? If so, enjoy!

### Ingredients

#### Choose your favorite ingredients from every group

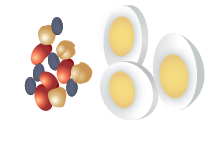
##### Grains

English muffin, brown rice cake, or bread



##### Protein Foods

beans or egg



##### Vegetables

carrots, celery, broccoli, tomatoes, peas, cucumber, or bell pepper



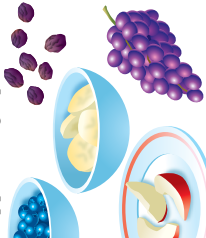
##### Dairy

low-fat cheese



##### Fruits

blueberries, bananas, raisins, apples, or grapes



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Source credit: [USDA Food and Nutrition Service](https://www.fns.usda.gov/food-group-friend)



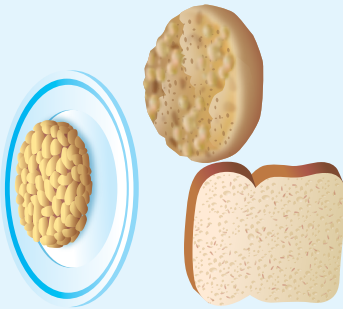
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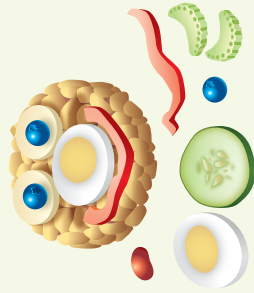
# Amigo del grupo de alimentos

**1** Consigue una cabeza



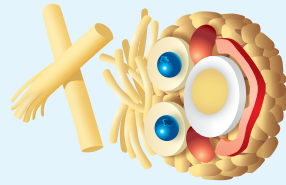
Pon un grano en tu plato.

**2** Haz una cara



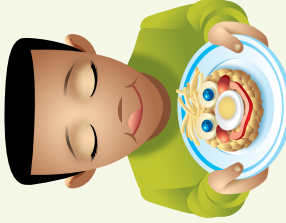
Elige frutas, vegetales y un alimento rico en proteína para hacer los ojos, la nariz y la boca. ¡Diviértete y hazlo colorido!

**3** ¿Cabello o sombrero?



Elige un producto lácteo y cubre la cabeza.

**4** Ponle nombre a tu amigo

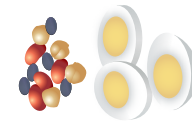


¿Haz utilizado un alimento de cada grupo alimenticio? Si es así, ¡disfrútalo!

## Ingredientes

### Proteínas

frijoles o huevo



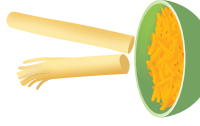
### Vegetales

zanahorias, apio, brócoli, tomates, guisantes, pepino o pimiento



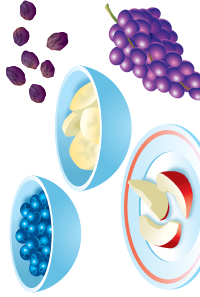
### Lácteos

queso bajo en grasa



### Frutas

arándanos, bananas, pasas, manzanas o uvas



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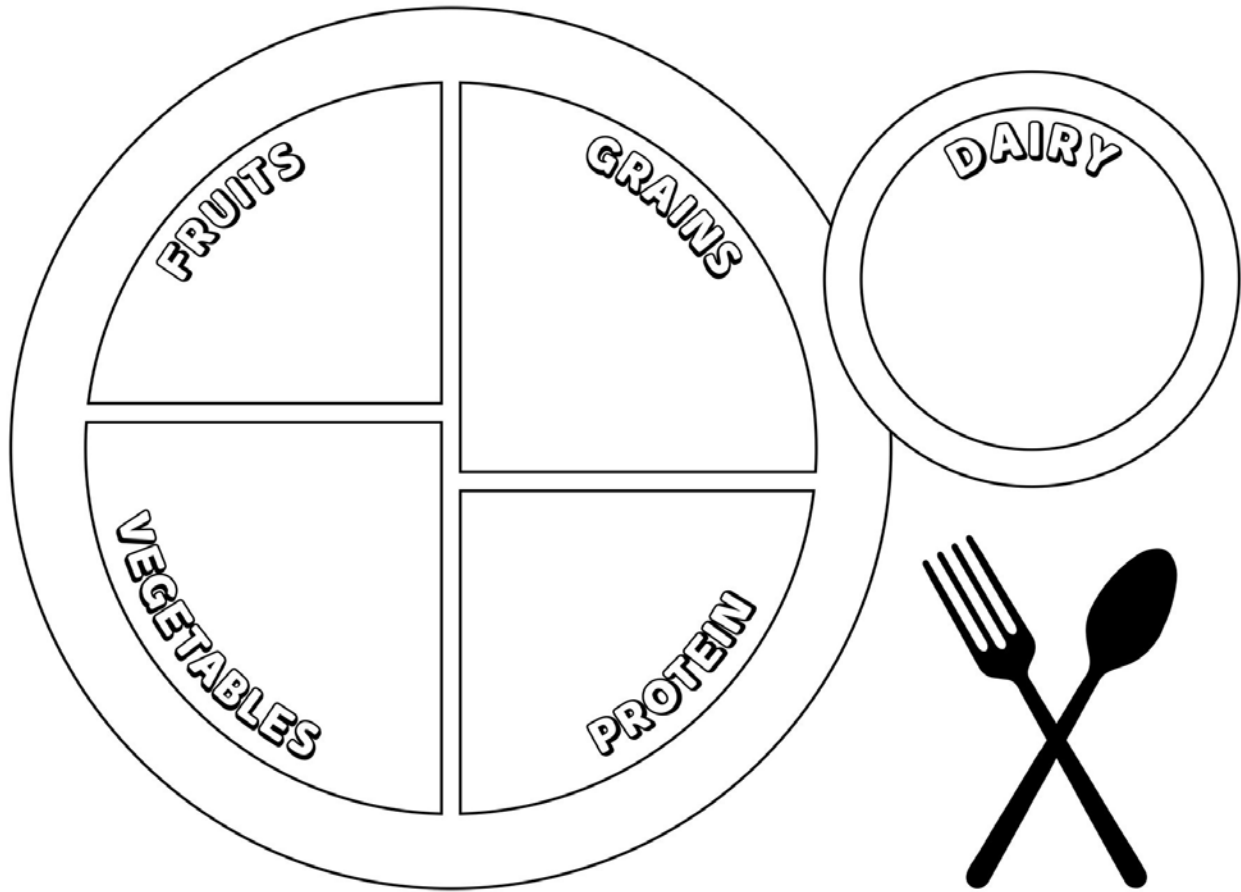
Source credit: [USDA Food and Nutrition Service](https://www.fns.usda.gov/mi-plate)



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Name:



# My Healthy Plate

Source credit: [My Healthy Plate](#)



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**MyPlate  
Champion**

# MyPlate Pledge

## for

**I pledge to be a MyPlate Champion. I will choose healthy foods from the five food groups at school and at home (or elsewhere) to keep my body and mind healthy. I pledge to find fun ways to be active everyday. I will also encourage my friends and family to make smart food choices and be active.**

### I pledge MyPlate! Everyday I will:

**Eat more fruits & veggies.**

**Try whole grains.**

**Re-think my drink.**

**Focus on lean protein.**

**Slow down on sweets.**

**Be active my way.**



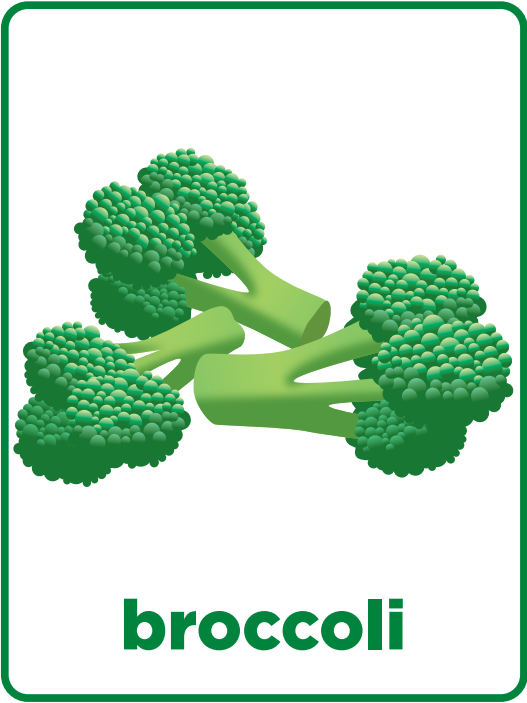
**MyPlate.gov**

Source credit: [My Plate](#)



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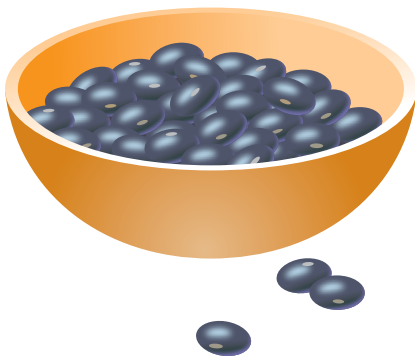
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**oatmeal**



**banana**



**black beans**



**soy milk**

Source credit: USDA Food and Nutrition Service



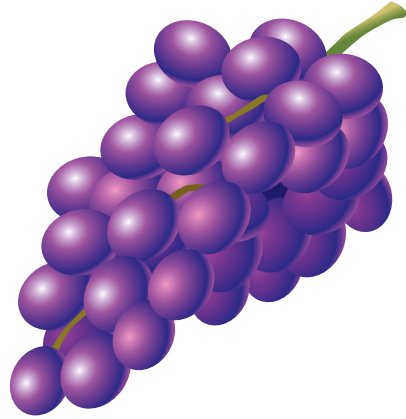
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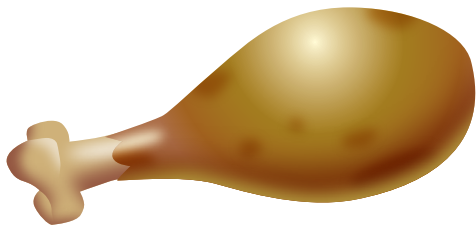




**cottage  
cheese**



**grapes**



**chicken**



**beans**

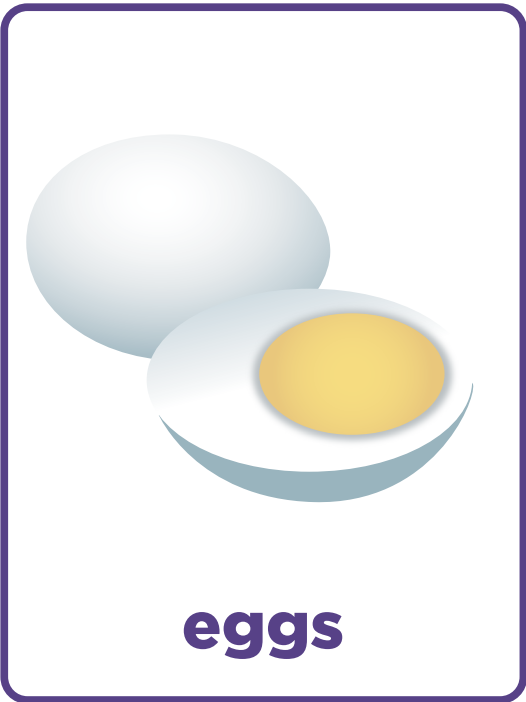
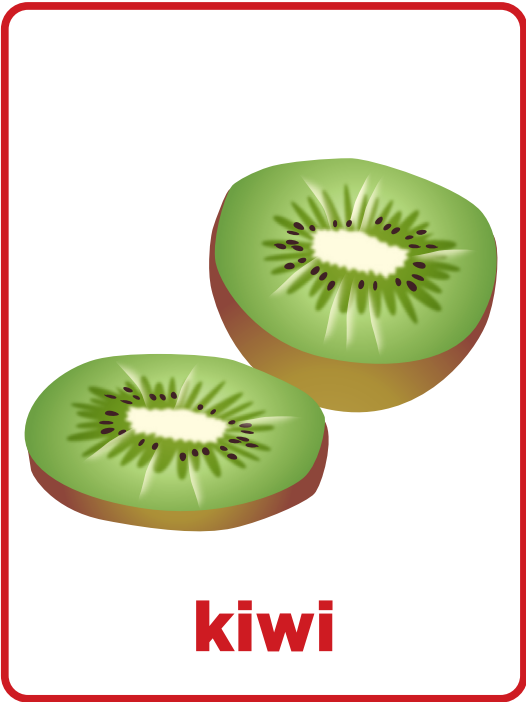
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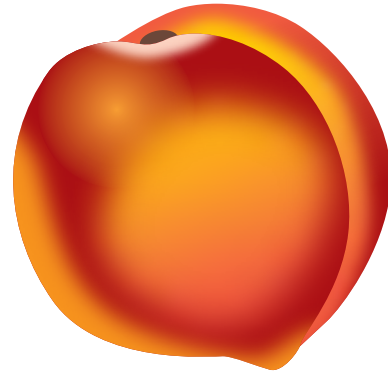


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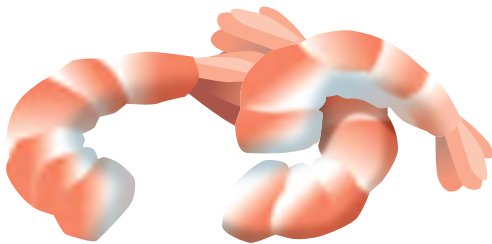
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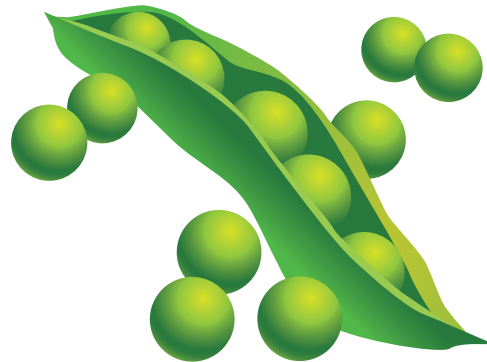
**yogurt**



**peach**



**shrimp**



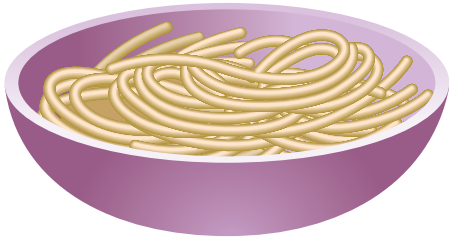
**peas**

Source credit: USDA Food and Nutrition Service

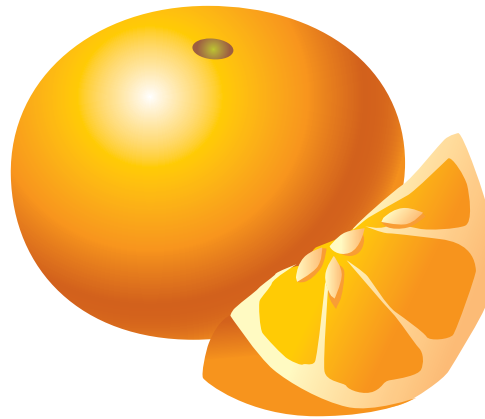


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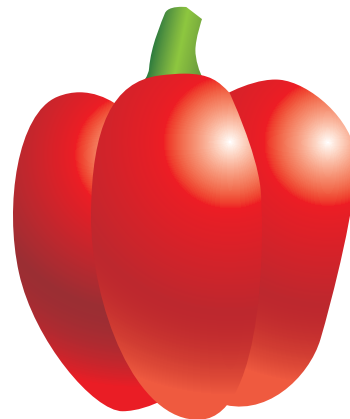
**pasta**



**orange**



**peanut butter**



**pepper**

Source credit: USDA Food and Nutrition Service

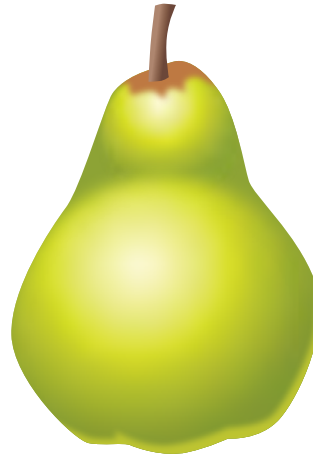


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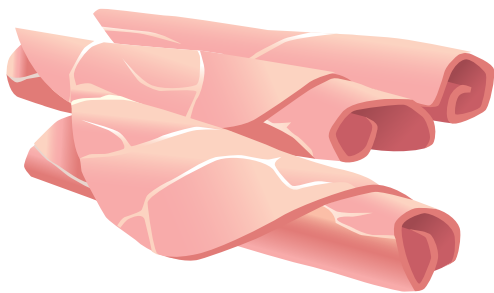
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**string cheese**



**pear**



**ham**



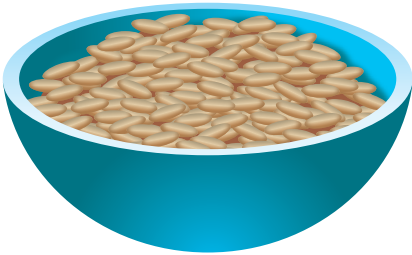
**spinach**

Source credit: [USDA Food and Nutrition Service](#)



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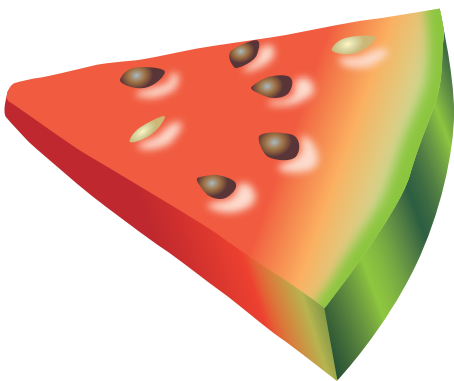
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**brown rice**



**strawberries**



**watermelon**



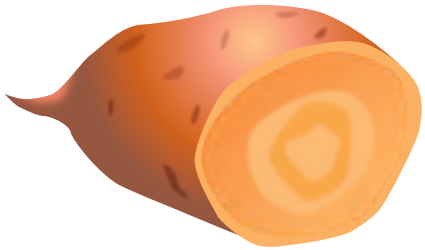
**cheese**

Source credit: [USDA Food and Nutrition Service](#)

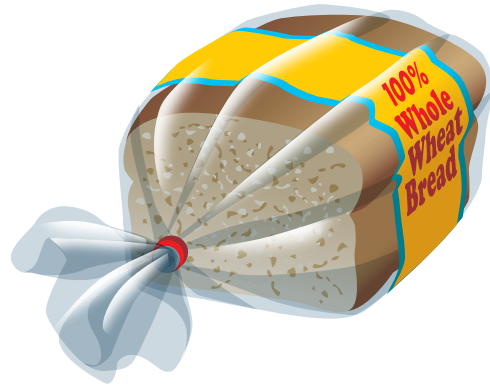


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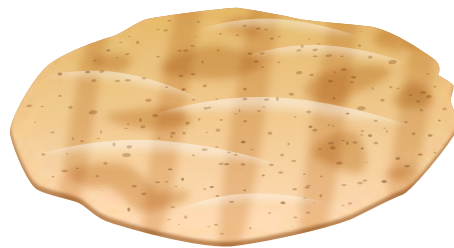
**sweet potato**



**bread**



**popcorn**



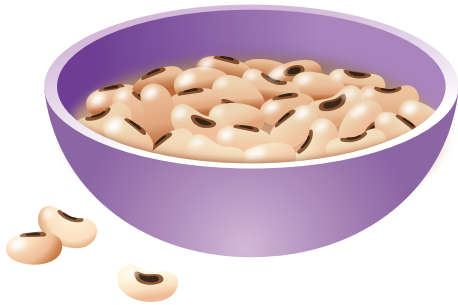
**tortilla**

Source credit: USDA Food and Nutrition Service



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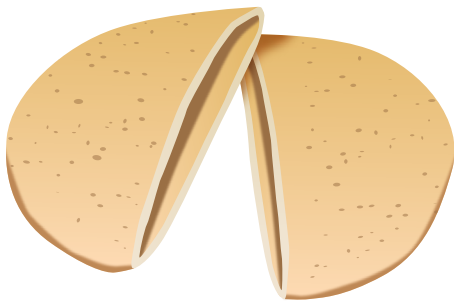
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**black-eyed peas**



**pumpkin**



**pita bread**



**cabbage**

Source credit: USDA Food and Nutrition Service



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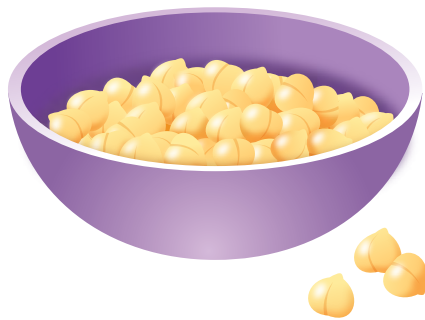
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**pineapple**



**veggie burger**



**chickpeas**  
(garbanzo beans)



**collard greens**

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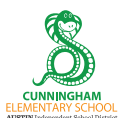
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Lesson Title: Eat a Rainbow		
Grade: K-1	Lesson Number: 2	
Estimated Time: 45 mins.	Season: 🍂 Fall	Type: 🍳 Cooking Concept
<p> <b>Teacher Background and Lesson Description:</b> Health guidelines recommend half of each meal be made up of fruits and vegetables. In addition, eating a variety of fruits and vegetables ensures consumption of a variety of vitamins and minerals. One strategy is to eat a rainbow of fruits and vegetables. <u>In this lesson</u>, students will review the variety of fruits and vegetables they explored in Lesson #1: Welcome to the Kitchen. They will draw and sort them by color to begin a collaborative art project. Students will kinesthetically model what part of the body is nourished by fruits and vegetables of each color. Then, students will echo read a poem about colors, go on a scavenger hunt, and explore books and magazines about food to find more foods of each color to add to their collaborative art project depicting a rainbow of different fruits and vegetables.</p>		
<p>★ <b>Lesson Objectives:</b> HC.K.2 Explain what Eat a Rainbow means. CLS.2 Students cooperate and communicate well with each other.</p>		
<p> <b>Academic Standard Connections:</b> CCSS.ELA-LITERACY.L.K.5.A Sort common objects into categories (e.g. shapes, foods) to gain a sense of the concepts the categories represent CCSS.MATH.CONTENT.K.MD.B.3 Classify objects into given categories; count the number of objects in each category and sort the categories by count.</p>	<p> <b>Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.</p>	
<p>? <b>Essential Questions:</b> What does it mean to “Eat a Rainbow”? Why is it important to eat a variety of colors of fruits and vegetables?</p>		
<p> <b>Vocabulary:</b> fruit(s), vegetable(s), vitamins, nutrients, nourish</p>		

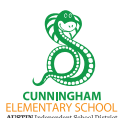
**NOTE:**  
Adapted from **Grade K Kitchen Lesson #2: Eat A Rainbow**, pg. 481.



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<p> <b>Materials:</b></p>		
<p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>• Eating the Alphabet by Lois Elhert</li> <li>• <a href="#">I Eat a Rainbow/Me Como un Arco Iris</a> by Bobbie Kalman</li> </ul>	<p><b>Equipment:</b></p> <p><i>For whole class:</i></p> <ul style="list-style-type: none"> <li>• Chart paper</li> <li>• Markers</li> <li>• 1 poster board (cut into 6 pieces)</li> <li>• <a href="#">Color poems</a></li> </ul> <p><i>For each group:</i></p> <ul style="list-style-type: none"> <li>• Crayons (2 boxes per table/group)</li> <li>• Post-it notes</li> <li>• <a href="#">Shop for a Rainbow handout</a> (1 per student)</li> </ul>	<p><b>Ingredients:</b></p> <ul style="list-style-type: none"> <li>• Pre-cut carrot sticks</li> <li>• Pre-cut apple slices</li> </ul> <p>(or other seasonal finger-food snack)</p>
<p><b>Materials for Enjoying Food:</b></p> <ul style="list-style-type: none"> <li>• Plates or cups for snack</li> </ul>	<p><b>Materials for Cleaning Up:</b></p> <ul style="list-style-type: none"> <li>• Trash, recycling, and compost bins</li> </ul>	
<p> <b>Assessment:</b></p> <p>Observations and completion of the Shop for a Rainbow handout</p>		
<p> <b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>• Gather books and other materials.</li> <li>• Print and laminate color poems for display.</li> <li>• Cut the poster board into 6 equal rectangles. On each rectangle, write the name of a color (red, orange, yellow, green, blue, and purple). Use a marker of that color to write the word (i.e., write "red" in red ink).</li> <li>• Prepare/pre-cut finger-food snacks with enough for each student--divided into plates or cups. Store snacks as necessary.</li> </ul>		
<p><b>+ Additional Resources:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Whole Kids Foundation, Eat a Rainbow</a></li> <li>• <a href="#">American Heart Association, Eating A Rainbow</a></li> </ul>		



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### Engage: Ignite Interest





- Remind students that, as discussed in Lesson #1: Welcome to the Kitchen, they each have something special to contribute to the class, and we welcome those unique qualities to our community. In the same way, each fruit and vegetable has special or unique qualities, to contribute to our experience of food or to the nourishment of our bodies. State that just as we need every student and their unique qualities to be our best community, we need a variety of fruits and vegetables and their unique qualities—vitamins and nutrients—to be our best selves.
- Review student names and the fruits and vegetables they chose in Lesson #1: Welcome to the Kitchen (that begin with the same letter as their name). Go around the class in a circle, working together as a group to remember the students' names and the fruits or vegetables they chose. If the class is stumped on the fruit or vegetable, the student can provide clues such as color, shape, size, taste, etc.

### Explore: Stir Discoveries

- Provide each student with a post-it note and each table with 2 boxes of crayons. Instruct students to first select the crayon that matches the color of the fruit or vegetable they chose (that goes along with their name). Instruct students to draw their fruit or vegetable on the post-it note.
- Distribute each of the small posters labeled with each color, placing 2 on each table. Instruct students to stand from their seats, move around the classroom, and stick their post-it note to the poster labeled with the matching color before returning to their table.
- When all students have returned to their table, invite them to explore/look at the color poster that's in front of them at their table with their small group. Have them name the fruits and vegetables they recognize and count the total number on their poster.

### Explain: Clarify New Ideas

- Explain to students that each group of fruits and vegetables are similar in color and may also have similar unique qualities that nourish our bodies. Group by group, explain how each color group may nourish our bodies and model a hand motion for students to remember it by:
  - **Red** fruits and veggies: help keep your heart strong (hands over heart)
  - **Orange** fruits and veggies: help keep your eyes healthy (point to eyes)
  - **Yellow** fruits and veggies: help keep you from getting sick (point to everything)
  - **Green** fruits and veggies: help make your bones and teeth strong (point to teeth)
  - **Blue** and **purple** fruits and veggies: help your memory (point to brain)
- In conclusion, explain that if students eat a variety of fruits and vegetables ("Eat a Rainbow"), they'll eat a variety of colors, and a variety of their body parts will be nourished from their heart, to eyes, to muscles, to teeth, to brain, and everything in between.

<p> <b>Elaborate: Watch It Rise</b></p> <ul style="list-style-type: none"> <li>• Echo read the <a href="#">color poems</a> with students and challenge students to point to the body part that is likely nourished by that color food.</li> <li>• Provide each group with more post-it notes and challenge them to draw one more fruit or vegetable that matches the color poster in front of them (including those they heard in the poem).</li> <li>• Read to students the following prompt to complete on their <a href="#">Shop for a Rainbow handout</a>:                      “In your shopping bag, draw a fruit or vegetable of each color that you would want to buy from the grocery store or a farmers market to eat a rainbow.”</li> <li>• While students work, hang the posters together in rainbow order on a wall in the kitchen for students to view. New fruits and vegetables can be added throughout the year as they are introduced.</li> </ul>	
<p> <b>Evaluate: Reflect</b></p> <ul style="list-style-type: none"> <li>• Review with students:                             <ul style="list-style-type: none"> <li>◦ What does it mean to “Eat a Rainbow”?</li> <li>◦ Why is it important to eat a variety of colors of fruits and vegetables?</li> </ul> </li> <li>• Review appropriate hand washing. <a href="#">Posters</a> should already be displayed from the previous lesson.</li> <li>• Instruct each student to gently and carefully grab a snack (reminding students to “<u>touch one, take one</u>”).</li> <li>• Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.</li> <li>• Share appreciation for each of their individual contributions to the kitchen and to the community, and for their respect for the kitchen. Express excitement for your next time together.</li> </ul>	
<p> <b>Connections to Garden Lessons:</b> Students can look through the garden for fruits and vegetables of every color.</p>	<p> <b>Possible Extensions:</b> In the cafeteria, students can go on a rainbow scavenger hunt in the lunchroom or at the salad bar, finding fruits and vegetables of every color.</p>



Healthy For Good™

# SEASONS OF EATING

Your heart-healthy recipes will taste even better with seasonal produce.

## SPRING

artichokes, asparagus, carrots, chives, fava beans, green onions, leeks, lettuce, parsnips, peas, radishes, rhubarb and Swiss chard



## SUMMER

berries, corn, cucumbers, eggplant, figs, garlic, grapes, green beans, melons, peppers (sweet and hot), stone fruit (apricots, cherries, nectarines, peaches, plums), summer squash, tomatoes and zucchini



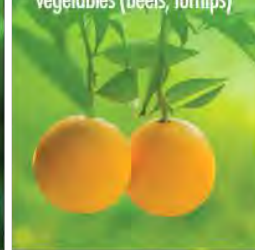
## FALL

apples, brussels sprouts, dates, hard squash (acorn, butternut, spaghetti), pears, pumpkins and sweet potatoes



## WINTER

bok choy, broccoli, cauliflower, celery, citrus fruit (clementines, grapefruit, lemons, limes, oranges, tangerines), collard greens, endive, leafy greens (collards, kale, mustard greens, spinach) and root vegetables (beets, turnips)



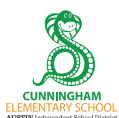
### KEEP THESE TIPS IN MIND WHEN USING AND SHOPPING FOR SEASONAL PRODUCE:

- 1 Fresh foods are often less expensive during their harvest season. You may even save money by buying in bulk.
- 2 Shop the farmers' market to learn more about produce and get ideas on how to prepare foods in season.
- 3 Gardening gives you fresh seasonal produce and a little exercise, too. The sense of accomplishment you'll feel will make that produce taste even better!
- 4 Frozen, canned and dried fruits and vegetables also can be healthy choices. Compare food labels and choose items with the lowest amounts of sodium and added sugars.
- 5 Choose canned fruit packed in water, its own juice or light syrup (avoid heavy syrup).
- 6 Choose canned and frozen vegetables without sauces that can be high in sodium and saturated fat.
- 7 Freeze fresh produce at the peak of its season, so you can add it to smoothies, soups and breads and enjoy it throughout the year.

EAT SMART ADD COLOR MOVE MORE BE WELL

#HEALTHYFORGOOD  
LEARN MORE AT [HEART.ORG/HEALTHYFORGOOD](https://www.heart.org/healthyforgood)

Source credit: [American Heart Association, Eating A Rainbow](https://www.heart.org/healthyforgood)



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**REASONS TO ADD COLOR**

Turns out mom was right. We need to eat our fruits and veggies. But why are these colorful, nutritious and delicious foods so important?

**1. FULL OF THE GOOD**  
Fruits and vegetables provide many beneficial nutrients, including vitamins, minerals, healthy fats, protein, calcium, fiber, antioxidants and phytonutrients. Add fruits and veggies to meals and snacks for a nutritional power boost.

**2. FREE OF THE BAD**  
Fruits and vegetables typically contain no trans fat, low saturated fat and very little or no sodium. The natural sugars they contain don't affect your health the same way added sugars do, especially if you eat the whole fruit or vegetable and not just the juice.

**3. WON'T WEIGH YOU DOWN**  
Fruits and vegetables tend to be low in calories, so they can help you manage your weight while still filling you up, thanks to the fiber and water they contain. Replacing higher-calorie foods with fruits and vegetables is an easy first step to a healthier eating plan.

**4. SUPER FLEXIBLE SUPER FOODS**  
All forms of fruits and vegetables - fresh, frozen, canned, dried and 100% juice - can be part of a healthy diet. They can be eaten raw or cooked, whole or chopped, organic or not, and alone or in combination with other foods. They are among the most versatile, convenient and affordable foods you can eat.

**5. A WHOLE BODY HEALTH BOOST**  
A healthy eating plan rich in fruits and vegetables can help lower your risk of many serious and chronic health conditions, including heart disease, stroke, obesity, high blood pressure, high blood cholesterol, diabetes, kidney disease, osteoporosis and some types of cancer. They're also essential to many daily functions of a healthy body.

heart.org/addcolor #ADDCOLOR

**color**

Source credit: American Heart Association, Eating A Rainbow



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The best way to get all of the vitamins, minerals and nutrients you need is to eat a variety of colorful fruits and veggies. Add color to your plate each day with the five main color groups.

**RED & PINK**  
 beets  
 cherries  
 cranberries  
 pink grapefruit  
 pomegranates  
 radicchio  
 red radishes  
 raspberries  
 red apples  
 red grapes  
 red peppers  
 red potatoes  
 rhubarbs  
 strawberries  
 tomatoes  
 watermelons

**BLUE & PURPLE**  
 blackberries  
 blueberries  
 eggplants  
 grapes  
 plums  
 prunes  
 purple figs  
 purple onions  
 radicchio  
 red cabbage  
 red onions

**EAT MORE COLOR**

**YELLOW & ORANGE**  
 acorn squash  
 butternut squash  
 apricots  
 cantaloupes  
 carrots  
 corn  
 grapefruit  
 lemons  
 mangoes  
 nectarines  
 oranges  
 orange peppers  
 papayas  
 peaches  
 pineapples  
 pumpkins  
 summer squash  
 sweet potatoes  
 tangerines  
 yams  
 yellow apples  
 yellow peppers  
 yellow squash

**WHITE & BROWN**  
 bananas  
 brown pears  
 cauliflower  
 currants  
 dates  
 garlic  
 Jerusalem artichokes  
 mushrooms  
 onions  
 potatoes  
 parsnips  
 raisins  
 shallots  
 turnips

**GREEN**  
 artichokes  
 asparagus  
 avocados  
 bok choy  
 broccoli  
 Brussels sprouts  
 celery  
 collard greens  
 cucumbers  
 green beans  
 green cabbage  
 green grapes  
 green onions  
 green peppers  
 kale  
 kiwis  
 leeks  
 limes  
 mustard greens  
 okra  
 pears  
 peas  
 romaine lettuce  
 snow peas  
 spinach  
 sugar snap peas  
 watercress  
 zucchini

heart.org/addcolor #ADDCOLOR

American Heart Association. Life is why. Healthy For Good™

Source credit: American Heart Association, Eating A Rainbow



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**Wash Your Hands!**  
**¡Lávese Las Manos!**

**1 Wet Hands**  
Mójese las manos

**2 Apply Soap**  
Aplique jabón

**3 Scrub for 20 seconds**  
Frótese las manos por 20 segundos

**4 Rinse**  
Enjuáguese

**5 Dry**  
Séquese las manos

**6 Turn Off Water with Paper Towel**  
Cierre el grifo usando una toalla de papel

**N EXTENSION**

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Source credit: [Washing Poster](#)



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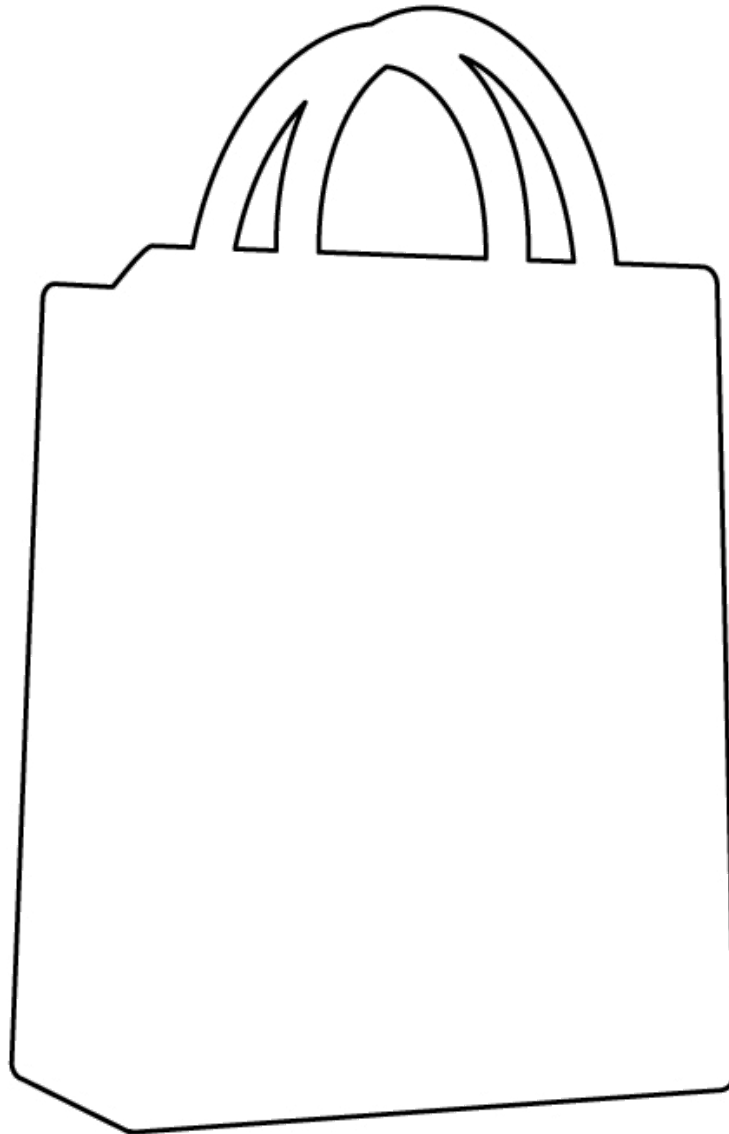
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Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Shop for a Rainbow

Draw a fruit or vegetable of each color that you would want to buy from your local grocery store or farmers market to “eat a rainbow.”



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## EAT A RAINBOW!

Why are there so many songs about rainbows? Because they're amazing and beautiful—not just in the sky, but also on the dining table! "Eating a rainbow" helps your body get a complete range of nutrients.

### WHAT DOES IT MEAN TO EAT A RAINBOW?

- Choosing a variety of different-colored **whole foods** throughout the day and week.
- The more **naturally occurring colors** on your plate at each meal or snack, the better.
- It *does not* mean making a rainbow with artificially colored foods (gummy snacks, soda, popsicles, etc.)

### WHAT'S UNDER THE RAINBOW?

Color	Foods	Possible Nutrients	Supports
Red	apples, red cabbage, red onion, red peppers, strawberries, tomatoes, cherries, watermelon	flavonoids, lycopene, vitamin C, folate	heart health, memory
Orange/ Yellow	cantaloupe, carrots, butternut squash, lemons, mango, oranges, papaya, peaches, pineapples, pumpkin, sweet potatoes, yellow peppers	beta-carotene, vitamin A, vitamin C	healthy eyes, heart health, immune function
Green	asparagus, bok choy, broccoli, cabbage, collards, cucumbers, grapes, green beans, green peppers, honeydew, kale, peas, spinach	chlorophyll, vitamin K, carotenoids, isothiocyanates, omega-3 fatty acids	healthy bones, teeth and eyes
Blue/ Purple	dark beans, eggplant, beets, blueberries, blackberries, figs	anthocyanin	memory and healthy aging
White	ginger, jicama, onions, mushrooms	flavonoids	heart health and good cholesterol levels

### THE NUTRITION RAINBOW CONNECTION

Fruits and vegetables get their color from naturally occurring micronutrients—such as vitamins and phytonutrients—which are essential for good health. One key function of these nutrients is **antioxidants**, which include beta-carotene, lutein, lycopene, and vitamins A, C and E. (Not all antioxidants impart color, but eating a colorful range of foods helps you get them all.)



### THE RAINBOW DINNER GAME

#### Step 1

Before dinner, draw a rainbow on a sheet of paper. Bring your drawing, a pencil and some scratch paper to the dining table.

#### Step 2

Look for a food on the table to match each color on your rainbow. Write down which colors are missing.

#### Step 3

Make a list of foods that would fill in the missing colors. Then add these to the weekly shopping list.

#### Bonus

Take your rainbow to school and play this game at lunch and with at least 3 friends!

Source credit: [Whole Kids Foundation, Eating A Rainbow](#)



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**NEXT STEPS:**

**The Other Side of the Rainbow**

Keep food rainbows in the forecast and sustain the kid excitement with these activities:

- **Gradually transition to filling at least half your plate** with colorful veggies at each meal.
- **Pick a color theme of the week.** Get as many fruits and veggies of that color as you can find, then let the whole family taste them all. Add favorites to your regular shopping list.
- **Keep a rainbow diary or calendar.** Let kids write down which colors they eat each day over a period of a week or month and then look back and talk about favorites. Use stickers to make it fun or download the "Today I Tried" Chart at [www.todayiatearainbow.com/resources/free-downloads/](http://www.todayiatearainbow.com/resources/free-downloads/).
- **Plant colorful vegetables in the yard** so kids can see the rainbow grow from seeds.

**TIPS FOR PARENTS**

Bring more rainbows to your table with these colorful ideas:

- Put at least **one produce item of each color** on the shopping list every week.
- Buy what's **in season** to enjoy peak flavor and lower prices.
- **Serve produce at peak ripeness.** Some kids reject foods that are under or over ripe. Learn how to pick 'em with the Whole Foods Market® online fruit and vegetable guides [www.wholefoodsmarket.com/recipes/food-guides](http://www.wholefoodsmarket.com/recipes/food-guides).
- **Rinse fresh fruits and veggies as soon as you get home** so they're ready for kids to grab and eat. Store them within kid reach.
- **Serve up food pictures or sculptures.** Arrange raw fruit and veggie rainbows on plates, thread them onto skewers, or use toothpicks to stick chunks together and create pyramids, faces or funny characters.
- **Let kids play with their food (just a little).** Allowing them to build their own food rainbows and sculptures may inspire children to eat them.
- **Serve a weekly rainbow dinner** with every color represented at one meal.
- **Put a rainbow of foods in their lunch box.** They'll love showing it off and may encourage classmates to eat more colors, too!
- **Serve fresh fruit as dessert.** If your child is used to a lot of sweets, sprinkle on some granola, a drizzle of honey or vanilla yogurt, then over a few weeks transition to just fruit.

**QUICK & EASY RECIPES**

Let kids help with the simple steps in **bold!**

**BREAKFAST**

**Rainbow Fruit Skewers with Yogurt Dip**

**1. Choose your favorite fruits** (berries, pineapple, kiwi, apples, oranges, etc.) and cut them into equal-size chunks. **2. Thread them onto wooden skewers.** **3. Dip 'em into nonfat vanilla yogurt** or a mix of ½ cup nonfat plain yogurt with 1 teaspoon honey.

**LUNCH / SNACK**

**Eggplant Chips**

1 medium eggplant, washed and sliced into ¼" thick rounds  
 sea salt  
 spices (optional)  
 olive oil

**1.** Preheat oven to 400 degrees. **2. Arrange eggplant rounds in a single layer on a large metal baking sheet.** **3. Brush both sides of the eggplant lightly with olive oil.** **4. Sprinkle with salt and any other spices you like.** **5. Bake for 15 minutes,** then check for doneness. When eggplant starts to brown on the top, flip it over and brown the other side for another 10–15 minutes. Chips should be crisp and very brown when done. **Tip:** Try them with hummus dip!

**DINNER**

**Rainbow Chili**

1 zucchini, sliced  
 1 yellow squash, sliced  
 1 red bell pepper, diced  
 1 jalapeño pepper, minced (optional)  
 1 onion, diced  
 4 garlic cloves, minced  
 1 can crushed tomatoes with liquid  
 1 can tomato paste  
 1 can black beans  
 1 can chili beans  
 1 can whole kernel corn  
 1 tablespoon olive oil  
 1 tablespoon chili powder  
 ½ teaspoon dried oregano  
 ¼ teaspoon cayenne pepper  
 ½ teaspoon ground black pepper

**1.** Heat oil in a large pot over medium-high heat. Stir in zucchini, yellow squash, bell pepper, jalapeño, onions and garlic. Sauté until tender (about 5 minutes). **2. Add canned ingredients and reduce heat to a simmer.** **3. Stir in spices and simmer 45–60 minutes, stirring occasionally, until chili reaches desired consistency.**  
 Source: [www.todayiatearainbow.com](http://www.todayiatearainbow.com)



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ADAPTED

GRADES K—1

SCHOOL PARTNER  
LESSON PLAN

Lesson Title: Five Senses Tasting		
Grade: K-1	Lesson Number: 4	
Estimated Time: 45 mins.	Season: 🍂 Fall	Type: 🍳 Cooking Concept
<p> <b>Teacher Background and Lesson Description:</b> The five senses are seeing, hearing, tasting, touching and smelling. Senses help living things survive in their environment. They help us to understand what’s happening around us. Our senses send messages through receptor cells to our brain, using our nervous system to deliver that message. There are four kinds of taste receptors on the tongue—bitter, sweet, salt and sour. Some parts of the skin are more sensitive than others—this is because they have more receptor cells. We taste food using both our sense of taste and smell. We need our sense of smell in order for our sense of taste to work properly—if you hold your nose shut while you eat, the taste won’t be as strong. It’s why food sometimes tastes plain when we have a cold and our nose is blocked up. <u>In this lesson</u>, students will be guided by the teacher on a sensory exploration of produce (that is in abundance in the garden) and record their thoughts. In small groups, students will write simple sensory poems of the food.</p>		
<p>★ <b>Lesson Objectives:</b> CFT.K.1 Name the five senses. CFT.K.2 Identify a variety of tastes and textures. CLS.4 Students appreciate and are respectful of differences and diversity in their communities.</p>		
<p> <b>Academic Standard Connections:</b> CCSS.ELA-LITERACY.SL.K.6 Speak audibly and express thoughts, feelings, and ideas clearly. CCSS.ELA-LITERACY.L.K.5.C Identify real-life connections between words and their use (e.g., note places at school that are colorful).</p>	<p> <b>Health Standard Connections:</b> N/A</p>	
<p>? <b>Essential Questions:</b> What are the five senses? How can I use my senses to describe different foods? What words (adjectives) can I use to describe different foods?</p>		
<p> <b>Vocabulary:</b> five senses (sight, smell, taste, hearing, touch), adjective(s), descriptive language, texture, appearance, scent, sound</p>		

**NOTE:** Adapted from **Grade K Kitchen Lesson #4: 5 Senses Tasting**, pg. 257.



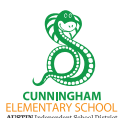
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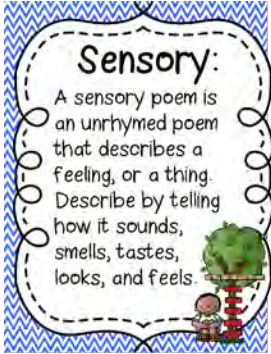



<p><b>Materials:</b></p> <table border="1"> <tr> <td> <p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Our Five Senses</a> by Christian Lopetz</li> <li>• <a href="#">5 Senses Posters</a></li> </ul> </td> <td> <p><b>Equipment:</b></p> <p>For whole class:</p> <ul style="list-style-type: none"> <li>• Chart paper</li> <li>• Markers</li> <li>• <a href="#">5 Senses Tasting recording sheet</a></li> </ul> <p>For each group:</p> <ul style="list-style-type: none"> <li>• <a href="#">Sensory poem template</a></li> </ul> </td> <td> <p><b>Ingredients:</b></p> <ul style="list-style-type: none"> <li>• 4 different foods harvested from the garden</li> </ul> <p>(if not much is available, a variety of things such as apples, berries, cucumbers, tomatoes or herbs will work)</p> </td> </tr> </table>		<p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Our Five Senses</a> by Christian Lopetz</li> <li>• <a href="#">5 Senses Posters</a></li> </ul>	<p><b>Equipment:</b></p> <p>For whole class:</p> <ul style="list-style-type: none"> <li>• Chart paper</li> <li>• Markers</li> <li>• <a href="#">5 Senses Tasting recording sheet</a></li> </ul> <p>For each group:</p> <ul style="list-style-type: none"> <li>• <a href="#">Sensory poem template</a></li> </ul>	<p><b>Ingredients:</b></p> <ul style="list-style-type: none"> <li>• 4 different foods harvested from the garden</li> </ul> <p>(if not much is available, a variety of things such as apples, berries, cucumbers, tomatoes or herbs will work)</p>
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<p><b>Materials for Enjoying Food:</b></p> <ul style="list-style-type: none"> <li>• Plates</li> </ul>	<p><b>Materials for Cleaning Up:</b></p> <ul style="list-style-type: none"> <li>• Trash, recycling, and compost bins</li> <li>• Sponge (for counters)</li> <li>• Broom and dustpan</li> </ul>			
<p><b>Assessment:</b></p> <p>Observations, recordings, sensory poems</p>				
<p><b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>• Gather books and other materials.</li> <li>• Print and laminate color poems for display.</li> <li>• Prepare/pre-cut foods with enough for each student--divided into plates. Store snacks as necessary.</li> </ul>				
<p><b>Additional Resources:</b></p> <ul style="list-style-type: none"> <li>• Your Sensational Sense of...book series by Julia Vogel</li> </ul>				

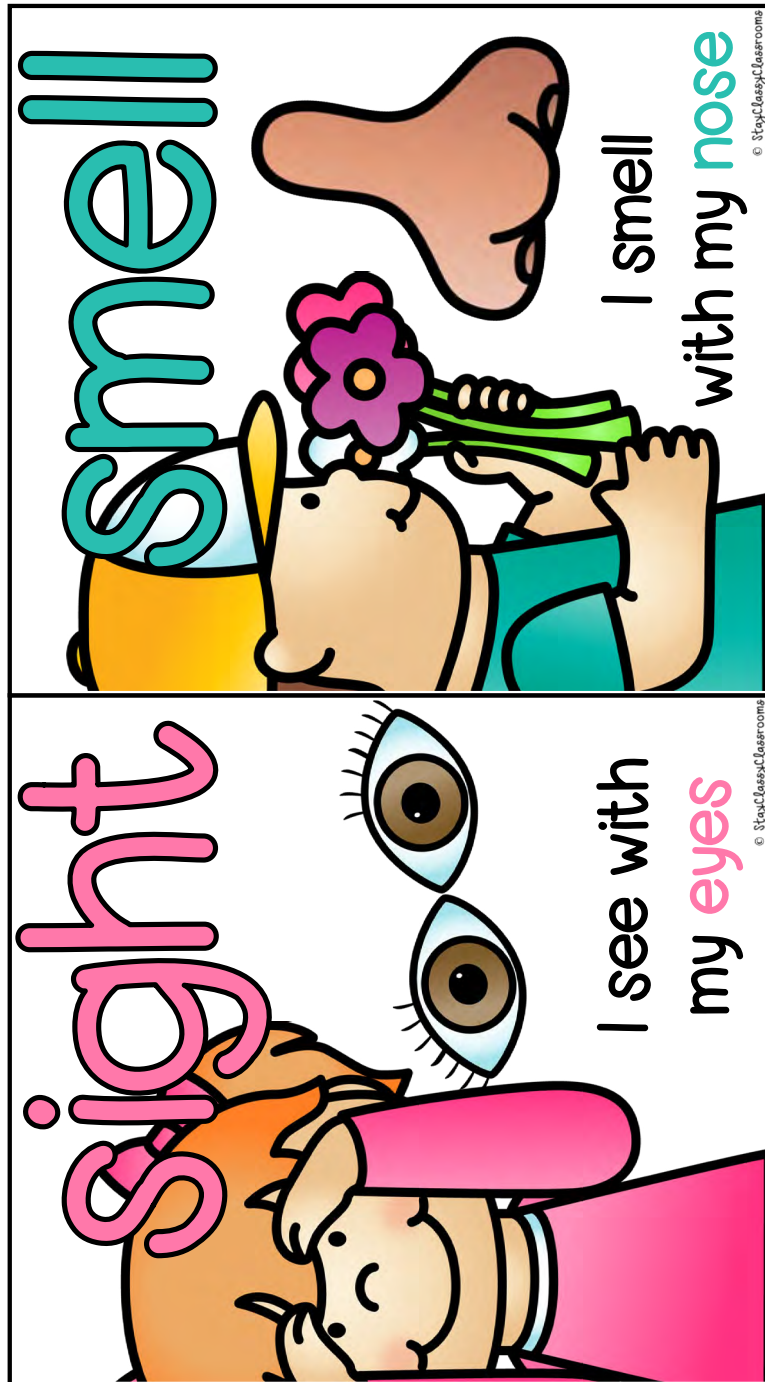
<p><b>Engage: Ignite Interest</b></p> <ul style="list-style-type: none"> <li>• Read aloud <a href="#">Our Five Senses</a>.</li> <li>• Go over the five senses and which body part we use for each sense as you display the posters.</li> <li>• Explain to students that today they will be conducting a sensory exploration. They will be using their senses to describe different foods. Some of these foods they might be familiar with and love, and others may be new and “not their taste” and that is okay. The goal is for students to participate in the activity using all of their senses, but once it comes down to tasting the food, they can choose to not taste something.</li> </ul>
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<p> Explore: <i>Stir Discoveries</i></p> <ul style="list-style-type: none"> <li>• Prepare to record on <a href="#">5 Senses recording sheet</a> or chart paper.</li> <li>• Starting with their eyes closed, have them feel the food and describe its texture. Next, smell and describe its scent. Then have them open their eyes to look at the food and describe its appearance. Next, have them take a bite and listen to the sound it makes. Finally, have them taste the food and describe the taste. Record the adjectives after each sense as students share them out.</li> <li>• Repeat for all three foods. Save one item for students to explore in their small group and complete the sensory poem.</li> </ul>	
<p> Explain: <i>Clarify New Ideas</i></p> <ul style="list-style-type: none"> <li>• Discuss findings.                     <ul style="list-style-type: none"> <li>○ Were students surprised by any of their discoveries?</li> <li>○ Did any of the foods they sampled have similar features (texture, smell, taste, etc.) to some of their favorite foods?</li> </ul> </li> </ul>	
<p> Elaborate: <i>Watch It Rise</i></p> <ul style="list-style-type: none"> <li>• Explain sensory poems.</li> <li>• In small groups, students will use their senses to explore their last food item and complete their sensory poem using the <a href="#">template</a> provided.                     <ul style="list-style-type: none"> <li>○ If students are not writing, they can opt to draw their responses or you may opt to complete as a class.</li> </ul> </li> <li>• Leave time for a couple of groups to share their writing.</li> </ul>	
<p> Evaluate: <i>Reflect</i></p> <ul style="list-style-type: none"> <li>• Recognize students' behaviors that aligned with the enduring understandings that they developed together with the goal of being the best for themselves, their communities, and their environment.</li> <li>• Share appreciation for each of their individual contributions to the kitchen and to the community, and for their respect for the kitchen. Express excitement for your next time together.</li> <li>• Dispose of waste in the appropriate bins and have a few students help to wipe down counters/tables and sweep any trash.</li> </ul>	
<p> Connections to Garden Lessons: Use produce from the garden. As students enjoy, trace ingredients back to their source. Bring compost out to the garden.</p>	<p> Possible Extensions: As a class, count the number of adjectives students used to describe the food.</p>



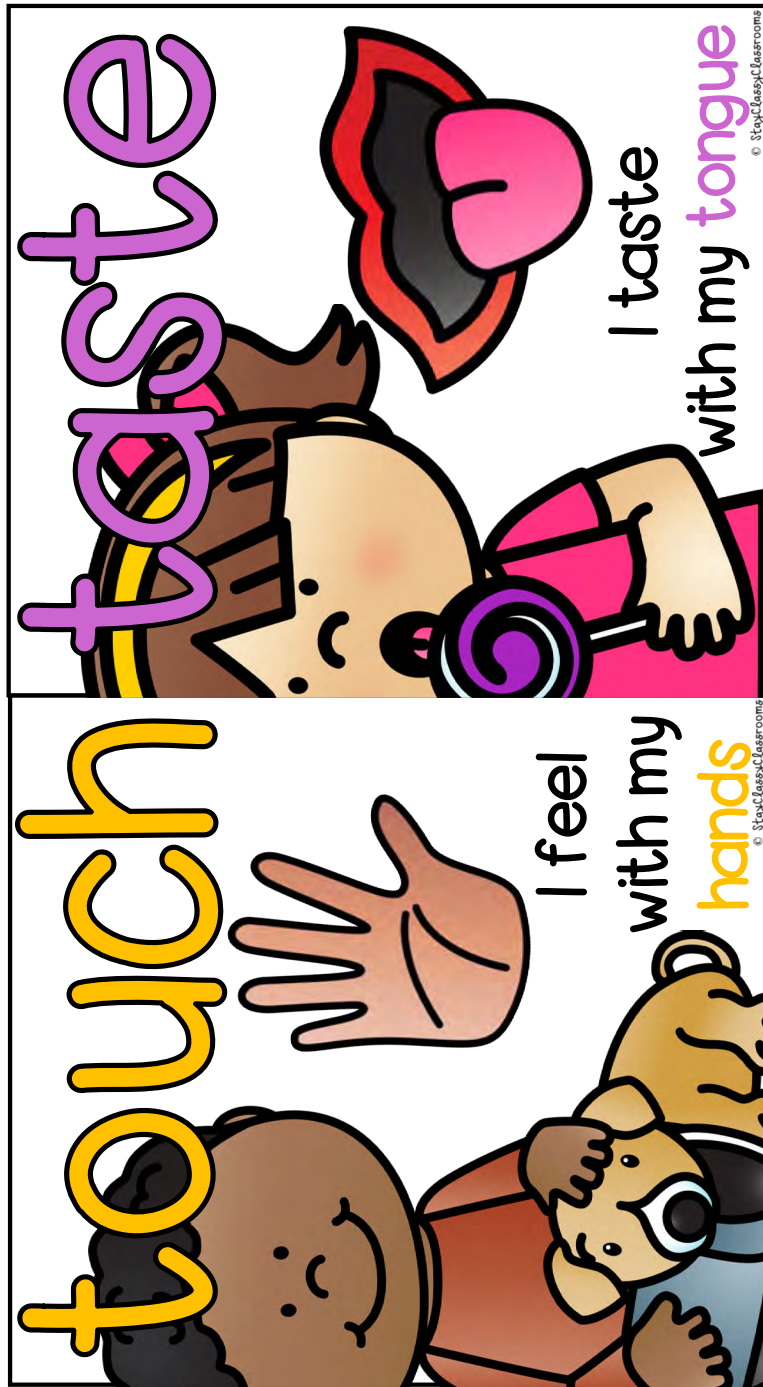
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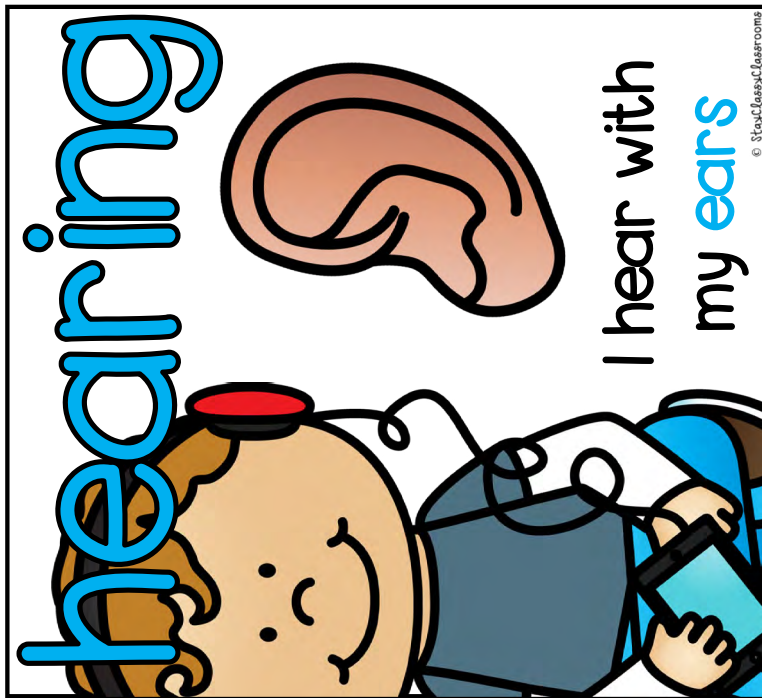


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Source: [Stay Classy Classrooms](#)

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## 5 Senses Tasting

Use your five senses to explore each food item. Write down adjectives to describe each and share your findings.

Sense	Food #1 _____	Food #2 _____	Food #3 _____
			
			
			
			
			



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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Use descriptive language to write about your food.

**Title:**

\_\_\_\_\_

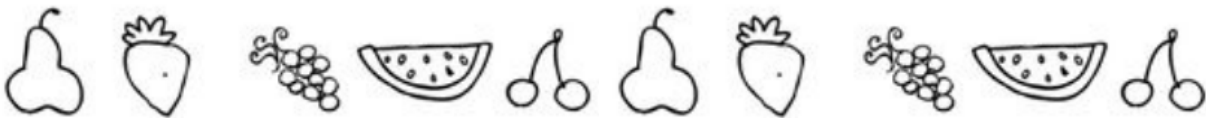
**It looks like** \_\_\_\_\_.

**It feels like** \_\_\_\_\_.

**It smells like** \_\_\_\_\_.

**It sounds like** \_\_\_\_\_.

**It tastes like** \_\_\_\_\_.



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# HERBED MEDITERRANEAN YOGURT CHEESE SPREAD

*Kitchen*

ADAPTED

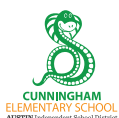
GRADES K-1

SCHOOL PARTNER  
LESSON PLAN

Lesson Title: Herbed Mediterranean Yogurt Cheese Spread		
Grade: K-1	Lesson Number: 9	
Estimated Time: 45 mins.	Season:  Winter	Type:  Cooking
<p> <b>Teacher Background and Lesson Description:</b> Labneh is a simple Middle Eastern fresh cheese. Labneh is a spreadable, and typically saltier cousin to the less strained, usually thicker Greek yogurt. <a href="#">In this lesson</a>, students will learn the purpose of a strainer and cheesecloth. They will review using a cutting board and knife and try a variety of food items with the dip they help create.</p>		
<p> <b>Lesson Objectives:</b> HC.K.4 Identify a food group in the garden. FP.K.1 Demonstrate ability to properly handle, wash and prepare fruits and vegetables. KTE.K.1-4 Kitchen Tools and Equipment CLS.2 Students cooperate and communicate well with each other.</p>		
<p> <b>Academic Standard Connections:</b> CCSS.ELA-LITERACY.L.K.5.A Sort common objects into categories (e.g. shapes, foods) to gain a sense of the concepts the categories represent. CCSS.MATH.CONTENT.K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</p>	<p> <b>Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.</p>	
<p> <b>Essential Questions:</b> What happens when you strain the liquid out of yogurt? What is labneh? What items in the kitchen are sharp and need to be handled with care?</p>		
<p> <b>Vocabulary:</b> yogurt, strainer, cheesecloth, pita, dip/spread, labneh</p>		

**NOTE:**

Adapted from **Grade K Kitchen Lesson #10: Herbed Mediterranean Yogurt Cheese Spread**, pg. 263.



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<p><b>Materials:</b></p>	
<p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>● <a href="#">Recipe</a>: Herbed Mediterranean Yogurt Cheese Spread</li> </ul>	<p><b>Equipment:</b></p> <p><i>For whole class:</i></p> <ul style="list-style-type: none"> <li>● Measuring cups</li> <li>● Spoons</li> <li>● Cutting board</li> <li>● Chef’s knife</li> <li>● Serving plate</li> </ul> <p><i>For each group:</i> (of 4-5 students)</p> <ul style="list-style-type: none"> <li>● Colander or wire-mesh strainer</li> <li>● Medium mixing bowl</li> <li>● Cheesecloth</li> <li>● Plastic wrap</li> <li>● Cutting board</li> <li>● Kid-safe knife</li> <li>● Scissors</li> <li>● Glue sticks</li> <li>● <a href="#">Kitchen Safety Sort</a> (1 per student)</li> </ul>
<p><b>Ingredients:</b> (serves 10-12)</p> <ul style="list-style-type: none"> <li>● 3 cups plain yogurt</li> <li>● 1½ teaspoons kosher or other coarse-grain salt</li> <li>● Freshly ground black pepper</li> <li>● ¾ teaspoon chopped fresh thyme</li> <li>● ¾ teaspoon chopped fresh oregano</li> <li>● 1½ teaspoons chopped fresh parsley</li> <li>● 2 tablespoons extra-virgin olive oil, plus more if desired</li> <li>● Pita</li> <li>● Carrot sticks</li> <li>● Celery sticks</li> <li>● Cucumbers</li> <li>● Kalamata olives</li> </ul>	
<p><b>Materials for Enjoying Food:</b></p> <ul style="list-style-type: none"> <li>● Plates</li> </ul>	<p><b>Materials for Cleaning Up:</b></p> <ul style="list-style-type: none"> <li>● Dish soap</li> <li>● Scrubber (for dishes)</li> <li>● Drying rack</li> <li>● Kitchen towels</li> <li>● Trash, recycling, and compost bins</li> <li>● Sponge (for counters)</li> <li>● Broom and dustpan</li> </ul>
<p><input checked="" type="checkbox"/> <b>Assessment:</b> Observations, completion of handout</p>	









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<p> <b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>● Gather materials, equipment, and ingredients listed above.</li> <li>● Pre-cut pita and veggies for dipping.</li> <li>● Prep one batch of dip ahead of time so it'll be ready for students.</li> </ul>
<p><b>+ Additional Resources:</b></p> <ul style="list-style-type: none"> <li>● <i>Yogurt and Cheeses and Ice Cream that Pleases: What Is in the Milk Group?</i> by Brian P. Cleary</li> </ul>

<p> <b>Prep to Cook:</b></p> <ul style="list-style-type: none"> <li>● Have students tie hair back, wash hands (review steps if necessary), put on aprons (if relevant) and find their cooking station (these may be pre-assigned).</li> </ul>
<p> <b>Recipe Introduction:</b></p> <ul style="list-style-type: none"> <li>● Explain why people prepare dips (to make fruits and vegetables even more delicious and to add another food group to a fruit or vegetable snack).</li> </ul>
<p> <b>Review Familiar Skills:</b></p> <ul style="list-style-type: none"> <li>● Review how to use a mixing bowl and mixing spoon.</li> <li>● Review safely using a kid-safe knife and cutting board.</li> </ul>
<p> <b>Demonstrate New Tools and Skills:</b></p> <ul style="list-style-type: none"> <li>● Explain/demonstrate the use of a strainer and a cheesecloth.             <ul style="list-style-type: none"> <li>○ A strainer is a device having holes punched in it or made of crossed wires for separating solid matter from a liquid.</li> <li>○ Cheesecloth is a lightweight, cotton gauze fabric with an open texture, and it is primarily used for food preparation. As its name suggests, cheesecloth was originally used to drain and wrap curds during the cheese-making process. Over time, it has grown to be used for a variety of food preparation tasks such as straining water, bundling herbs and spices, and dusting baked goods.</li> </ul> </li> </ul>
<p> <b>Divvy Up Tasks:</b></p> <ul style="list-style-type: none"> <li>● Have students take turns cutting the pita into wedges and slicing the cucumbers.</li> <li>● The remaining students will help prep the yogurt to put in the fridge.</li> <li>● While students are waiting they can complete the <a href="#">Kitchen Safety Sort</a>.</li> </ul>

<p> <b>Cook:</b>  <a href="#">(Recipe: Herbed Mediterranean Yogurt Cheese Spread)</a></p> <ul style="list-style-type: none"> <li>Place a colander or wire-mesh strainer over a medium mixing bowl. (Make sure that there is enough room between the bottom of the colander or strainer and the bowl for about an inch of liquid to drain off the yogurt.)</li> <li>Fold a large piece of cheesecloth in half and place inside the colander, draping the edges over the sides.</li> <li>Pour the yogurt into the cheesecloth, and cover the entire bowl with plastic wrap.</li> <li>Place the yogurt in the refrigerator and chill overnight. (The longer the yogurt sits in the colander, the thicker the cheese will be!)</li> </ul>	
<p> <b>Enjoy:</b></p> <ul style="list-style-type: none"> <li>Remove the yogurt from the cheesecloth and place on a serving plate. Season with salt and freshly ground black pepper. Sprinkle the thyme, oregano, and parsley over the top of the cheese and drizzle with olive oil.</li> <li>Serve the yogurt cheese with pita bread wedges, veggies, and Kalamata olives.</li> <li>Instruct each student to gently and carefully take a plate (reminding students to <u>"touch one, take one"</u>).</li> <li>As you enjoy together, reflect on food groups represented by the pita, vegetables, and dip, and which ones came from the garden.</li> </ul> <p>* The yogurt cheese will keep, covered, in the refrigerator for 3 to 4 days.</p>	
<p> <b>Clean Up:</b></p> <ul style="list-style-type: none"> <li>Have a couple of students pick up any dirty utensils/equipment and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.</li> <li>Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.</li> <li>Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.</li> </ul>	
<p> <b>Evaluate/Reflect:</b></p> <ul style="list-style-type: none"> <li>Share appreciation for each of their individual contributions to the kitchen and to the community, and for their respect for the kitchen. Express excitement for your next time together.</li> </ul>	
<p> <b>Connections to Garden Lessons:</b>                  Harvest vegetables from the garden and taste with the dip. Incorporate other garden herbs. Bring compost out to the garden.</p>	<p> <b>Possible Extensions:</b>                  Prepare Yogurt Cheese Spread at home and enjoy with your favorite vegetable.</p>



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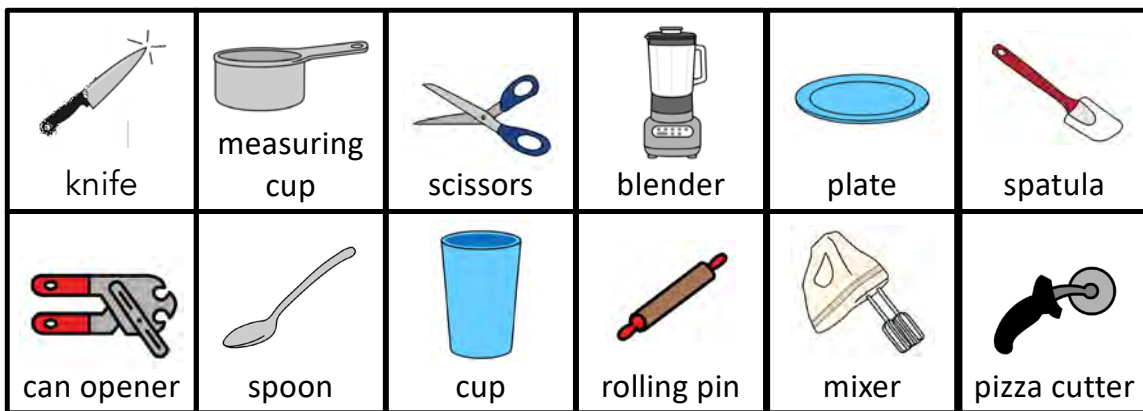
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**Cooking Safety**

Directions: cut out pieces & sort the cooking supplies into the correct category

<b>Sharp</b>	<b>Not Sharp</b>



Source credit: [Kitchen Safety Sort](#)



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# SHRIMP AND VEGGIE SUMMER ROLLS

*Kitchen*

ADAPTED

GRADES K—1

SCHOOL PARTNER  
LESSON PLAN

Lesson Title: Shrimp and Veggie Summer Rolls		
Grade: K-1	Lesson Number: 14	
Estimated Time: 45 mins.	Season:  Spring	Type:  Cooking
<p> <b>Teacher Background and Lesson Description:</b> This Vietnamese specialty is a cousin of a Chinese favorite, the egg roll, except it isn't fried. Don't let these rolls intimidate you! The secret is to have all the ingredients set out and ready, assembly line-style, so that they're easier to pull together. <u>In this lesson</u>, students will discuss different food items of Vietnam and learn how to roll a spring roll.</p>		
<p> <b>Lesson Objectives:</b> RC.K.2 Recognize how families share and maintain food and cultural traditions. FP.K.1 Demonstrate ability to properly handle, wash and prepare fruits and vegetables. KTE.K.1-4 Kitchen Tools and Equipment CLS.4. Students appreciate and are respectful of differences and diversity in their communities</p>		
<p> <b>Academic Standard Connections:</b> Social Studies: Diversity and Culture. Social Studies: Geography.</p>		<p> <b>Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.</p>
<p> <b>Essential Questions:</b> What is a spring roll? What does a spring roll contain? How is a spring roll different from an egg roll? How do you properly roll a spring roll?</p>		
<p> <b>Vocabulary:</b> shellfish, cellophane noodles, ginger, rice paper (wrapper)</p>		

## NOTE:

- Contains shellfish—Modify for individuals with shellfish allergies. Leave out shrimp for a vegetarian option.
- Adapted from **Grade K Kitchen Lesson #18: Shrimp and Veggie Summer Rolls**, pg. 270.



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<p>Materials:</p>		
<p>Lesson Introduction:</p> <ul style="list-style-type: none"> <li>• <a href="#">Recipe</a>: Shrimp and Veggie Summer Rolls</li> <li>• <a href="#">Meals in Vietnam</a> by R J Bailey</li> </ul>	<p>Equipment:</p> <p>For whole class:</p> <ul style="list-style-type: none"> <li>• measuring cups and spoons</li> <li>• cutting board</li> <li>• chef's knife</li> <li>• paring knife</li> <li>• box grater</li> <li>• vegetable peeler</li> <li>• large mixing bowl</li> <li>• medium saucepan</li> <li>• slotted spoon</li> <li>• small mixing bowl</li> <li>• fine-mesh strainer</li> <li>• 9-inch shallow dish</li> <li>• clean, dry kitchen towel</li> <li>• oven mitts or pot holders</li> <li>• damp towels (optional)</li> </ul> <p>For each group:</p> <ul style="list-style-type: none"> <li>• paper towels</li> <li>• large plate</li> </ul>	<p>Ingredients: (yields 10 rolls)</p> <ul style="list-style-type: none"> <li>• 1 (3 ¾-ounce) package cellophane noodles</li> <li>• 4 cups water</li> <li>• 1 (2-inch) piece of ginger, peeled and thinly sliced</li> <li>• 1 lemon, halved</li> <li>• ¼ cup soy sauce</li> <li>• ¼ cup sugar</li> <li>• 4 bay leaves</li> <li>• 1 tablespoon chopped green onion (green and white part)</li> <li>• 1 teaspoon chopped garlic (about 2 small cloves)</li> <li>• 1 teaspoon salt</li> <li>• 1 teaspoon freshly ground black pepper</li> <li>• ½ teaspoon cayenne</li> <li>• 20 large shrimp, peeled and deveined</li> <li>• 10 (8½-inch) round rice paper wrappers</li> <li>• 40 small fresh mint leaves</li> <li>• 40 small fresh cilantro leaves</li> <li>• 3 romaine lettuce leaves, rinsed, patted dry, ribs removed, and torn into bite-size pieces</li> <li>• 1 large carrot, peeled and shredded</li> </ul>






**NOTE:** Contains shellfish—Modify for individuals with shellfish allergies. Leave out shrimp for a vegetarian option.



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<p>Materials for Enjoying Food:</p> <ul style="list-style-type: none"> <li>• Plates</li> </ul>	<p>Materials for Cleaning Up:</p> <ul style="list-style-type: none"> <li>• Dish soap</li> <li>• Scrubber (for dishes)</li> <li>• Drying rack</li> <li>• Kitchen towels</li> <li>• Trash, recycling, and compost bins</li> <li>• Sponge (for counters)</li> <li>• Broom and dustpan</li> </ul>
<p> <b>Assessment:</b> Observations</p>	
<p> <b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>• Gather materials, equipment, and ingredients listed above.</li> <li>• Pre-soak, cook, and chop all ingredients ahead of time.</li> </ul>	
<p><b>+ Additional Resources:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">All Around the World: Vietnam</a> by Kristine Spanier</li> </ul>	







<p> <b>Prep to Cook:</b></p> <ul style="list-style-type: none"> <li>• Have students tie hair back, wash hands (review steps if necessary), put on aprons (if relevant) and find their cooking station (these may be pre-assigned).</li> </ul>
<p> <b>Recipe Introduction:</b></p> <ul style="list-style-type: none"> <li>• Read aloud <a href="#">Meals in Vietnam</a> by R J Bailey.</li> <li>• Discuss the different foods, ones students have tried, and ones they would like to try.</li> </ul>
<p> <b>Review Familiar Skills:</b></p> <ul style="list-style-type: none"> <li>• Review safe behaviors in the kitchen.</li> </ul>
<p> <b>Demonstrate New Tools and Skills:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate how to fill a summer roll.</li> </ul>
<p> <b>Divvy Up Tasks:</b></p> <ul style="list-style-type: none"> <li>• Have students fill and wrap their own summer roll.</li> </ul>

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<p> <b>Cook:</b>                  (Recipe: Shrimp and Veggie Summer Rolls)</p> <ul style="list-style-type: none"> <li>• In a medium saucepan, combine 4 cups water, the ginger, lemon halves, soy sauce, sugar, bay leaves, green onion, garlic, salt, black pepper, and cayenne. Bring the mixture to a boil over high heat.</li> <li>• Carefully add the shrimp to the boiling soy sauce mixture and boil for 2 minutes. Remove the pan from the heat and allow the shrimp to stand in the hot mixture for 2 more minutes, until cooked through.</li> <li>• Using a slotted spoon, remove the shrimp from the cooking liquid and place in a small mixing bowl. When the shrimp are cool enough to handle, slice in half lengthwise.</li> </ul>	
<p> <b>Enjoy:</b></p> <ul style="list-style-type: none"> <li>• Serve immediately with the dipping sauce, or refrigerate, covered with damp towels, for up to 1 hour before serving.</li> </ul>	
<p> <b>Clean Up:</b></p> <ul style="list-style-type: none"> <li>• Have a couple of students pick up any dirty utensils/equipment and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.</li> <li>• Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.</li> <li>• Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.</li> </ul>	
<p> <b>Evaluate/Reflect:</b></p> <ul style="list-style-type: none"> <li>• Share appreciation for each of their individual contributions to the kitchen and to the community, and for their respect for the kitchen. Express excitement for your next time together.</li> </ul>	
<p> <b>Connections to Garden Lessons:</b>                  Use produce from the garden, if possible. Garnish with cilantro, lemongrass or other Asian herbs growing in your garden. Bring compost out to the garden.</p>	<p> <b>Possible Extensions:</b>                  Invite families and community members to enjoy this dish.</p>

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# WELCOME TO THE KITCHEN

*Kitchen*

## TIME AND LENGTH

45 min

ADAPTED

GRADES K—5

SCHOOL PARTNER  
LESSON PLAN

## LOCATION

Kitchen Classroom



## ESSENTIAL QUESTIONS

What is the kitchen classroom? What will we accomplish here together? What are our kitchen expectations? How do we properly wash our hands? How do we handle knives safely?



## MATERIALS

- Conventional peaches (total # of students/4 or 5)
- Organic peaches (total # of students/4 or 5)
- Small plates or regular paper plates cut into fourths or small dixie cups
- Toothpicks or something to scoop peach into mouth (not necessary if using dixie cups)
- Prep board for Peachy Poetry
- Handouts of Peach Pie poem (enough for two students)



## VOCABULARY

- Farmer's Market
- Organic
- Adjective
- Five Senses

## TEACHER BACKGROUND

Article: [Mindful eating: Trait and state mindfulness predict healthier eating behavior](#)

## LESSON DESCRIPTION

Students are introduced to the kitchen classroom by setting expectations, learning hand washing, and practicing a mindful eating exercise.

### NOTE:

Adapted from **Grade K Kitchen Lesson #1: Welcome to the Kitchen**, pg. 475.



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## LEARNING OBJECTIVE

- Students are introduced to the new kitchen space and learn what safety expectations we have in place for the kitchen classroom.
- Students learn to eat food using their 5 senses.

**Content Learning Objectives***Culinary Flavors and Textures***CFT.K.1** Name the five senses.**CFT.1.2** Name and describe taste sensations.**CFT.3.1** Demonstrate an understanding of taste sensations.**CFT.3.2** Describe foods and their flavor attributes.*Food Preparation***FP.K.1** Demonstrate ability to properly handle, wash and prepare fruits and vegetables**FP.K.1, FP.1.1, FP.2.1**

Demonstrate ability to properly handle, wash and prepare fruits and vegetables.

*Kitchen Behaviors***KB.1 K-8** Recognize where the kitchen is located, how to move in it respectfully and safely, and understand the kitchen is a learning environment.**KB.2 K-8** Understand and practice proper safety and sanitation practices in the kitchen. Students wash hands and pull hair back. Gloves are used when applicable. Clothing is tucked in, tied, clean and covered with aprons.**KB.3 K-8** Students handle, wash, and prepare foods safely.**KB.4 K-8** Students clean up the kitchen after they use it, and know that the kitchen is a shared space to be left as it was found.**KB.5 K-8** Students use healthy practices and know how to avoid spreading bacteria and viruses.**Life Skills Learning Objectives***Personal Life Skills***PLS.1** Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.**PLS.2** Students are able to express empathy and caring for themselves, others, and the environment.**PLS.3** Students cultivate honest and responsible behaviors that contribute to the learning of the community.**PLS.4** Students are active and engaged learners who show up on time prepared to learn and manage their time wisely.**PLS.5** Students develop the ability to make informed and responsible decisions.**PLS.6** Students actively seek creative and resourceful solutions.

*Community Life Skills*

**CLS.5** Students participate in the development of agreed upon protocols and behaviors for the garden and kitchen environments.

## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

**1.1 Scientific investigation and reasoning.** The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices. The student is expected to:

- (A) identify, discuss, and demonstrate safe and healthy practices as outlined in Texas Education agency-approved safety standards during classroom and outdoor investigations, including wearing safety goggles or chemical splash goggles, as appropriate, washing hands, and using materials appropriately

**2.5 Matter and energy.** The student knows that matter has physical properties and those properties determine how it is described, classified, changed, and used. The student is expected to:

- (A) classify matter by physical properties, including relative temperature, texture, flexibility, and whether material is a solid or liquid
- (B) compare changes in materials caused by heating and cooling
- (C) demonstrate that things can be done to materials such as cutting, folding, sanding, and melting to change their physical properties

**4.1 Scientific investigation and reasoning.** The student conducts classroom and outdoor investigations, following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:

- (A) demonstrate safe practices and the use of safety equipment as described in Texas Education Agency—approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles or chemical splash goggles, as appropriate, and gloves, as appropriate

**Texas Essential Knowledge and Skills (TEKS) for English Language Arts and Reading, Elementary, Revised 2022**

**1.12 Composition: listening, speaking, reading, writing, and thinking using multiple texts—genres.**

The student uses genre characteristics and craft to compose multiple texts that are meaningful.

The student is expected to:

- (A) dictate or compose literary texts, including personal narratives and poetry

**3.3 Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking—vocabulary.** The student uses newly acquired vocabulary expressively. The student is expected to:

- (A) use print or digital resources to determine meaning, syllabication, and pronunciation
- (B) use context within and beyond a sentence to determine the meaning of unfamiliar words and multiple-meaning words

**4.12 Composition: listening, speaking, reading, writing, and thinking using multiple texts—genres.**

The student uses genre characteristics and craft to compose multiple texts that are meaningful.

The student is expected to:

- (A) compose literary texts such as personal narratives and poetry using genre characteristics and craft



**Texas Essential Knowledge and Skills (TEKS) for Mathematics, Elementary, Adopted 2012**

**1.1 Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

- (A) apply mathematics to problems arising in everyday life, society, and the workplace
- (B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution
- (D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate

**4.8 Geometry and measurement.** The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:

- (A) identify relative sizes of measurement units within the customary and metric systems
- (B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table

**5.7 Geometry and measurement.** The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric

*Lesson Sequence**Engage***Ignite Interest (5 mins):**

Welcome students to the kitchen, introduce instructor and space, set expectations/chef's contract, learn proper hand washing techniques

*Explore***Stir Discoveries (6 mins):**

Practice hand washing. Practice knife safety. Mindful eating/tasting

*Explain***Clarify New Ideas (7 mins):**

Knife Safety, Hand washing, different spaces in the classroom, prepare peaches and talk about the difference between Farmer's Market and store bought

*Elaborate***Watch It Rise (20 mins):**

Mindful tasting activity.

- Using the 5 senses to experience our snack

*Evaluate***Reflect (7 mins):**

What did you think? (Turn-and-talk)

- How would you describe the peaches?
- Peach poetry using adjectives

#### ADAPTATIONS

Use local produce based on what's available at the Farmer's Market

#### CONNECTIONS TO THE GARDEN/KITCHEN LESSONS

Certain foods are grown locally: students will eat peaches during this lesson since they grow in Texas. In future lessons students will try food from the garden.

#### POSSIBLE EXTENSIONS

Poetry reflection: use student created adjectives that describe food to write a poem

#### ADDITIONAL RESOURCES

- [How to hold a knife](#)

Peach Pie

Peach pie caught my eye  
Grabbed a fork,  
Oh my!  
Chewed and swallowed -  
Huge sigh!  
Peach pie,  
bye-bye.

by Penny Parker Klostermann

Peach Pie

Peach pie caught my eye  
Grabbed a fork,  
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by Penny Parker Klostermann

Source: <https://pennyklostermann.com/tag/poetry/page/3/>



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# WHO GROWS AND PREPARES OUR FOOD?

Kitchen

ADAPTED

GRADES K—1

SCHOOL PARTNER  
LESSON PLAN

Lesson Title: Who Grows and Prepares Our Food?		
Grade: K-1	Lesson Number: 10	
Estimated Time: 45 mins.	Season:  Winter	Type:  Cooking Concept
Teacher Background and Lesson Description: <u>In this lesson</u> , students will learn about producers and consumers. They will create their own pizza and trace back the ingredients they use back to their sources.		
★ Lesson Objectives: HE.K.1 Understand and describe a variety of food related professions. PLS.4 Students are active and engaged learners who show up on time prepared to learn and manage their time wisely.		
Academic Standard Connections: CCSS.ELA LITERACY.SL.K.4 Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.	Health Standard Connections: N/A	
? Essential Questions: Where does our food come from? What is our role in the food system?		
Vocabulary: food system/food chain, consumer, producer, ingredients		

## NOTE:

Adapted from **Grade K Kitchen Lesson #11: Who Grows and Prepares our Food?**, pg. 264.



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<p><b>Materials:</b></p>	
<p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Before We Eat: From Farm to Table</a> by Pat Brisson</li> </ul>	<p><b>Equipment:</b></p> <p>For whole class:</p> <ul style="list-style-type: none"> <li>• TV/Screen</li> <li>• Computer</li> <li>• Chart paper</li> <li>• Markers</li> <li>• Oven</li> </ul> <p>For each group:</p> <ul style="list-style-type: none"> <li>• Baking Sheet or Pizza Pan</li> <li>• Scissors</li> <li>• Glue sticks</li> <li>• <a href="#">Where Does Our Food Come From? Sort</a> (1 per student)</li> <li>• <a href="#">My Pizza handout</a> (1 per student)</li> </ul>
<p><b>Ingredients:</b></p> <ul style="list-style-type: none"> <li>• Pre-made pizza crusts (cut so each student can get a slice)</li> <li>• Pizza sauce/tomato sauce</li> <li>• Mozzarella cheese</li> <li>• Pepperoni</li> <li>• Different colored bell peppers</li> <li>• Ham</li> <li>• Pineapples</li> <li>• Olives</li> </ul>	
<p><b>Materials for Enjoying Food:</b></p> <ul style="list-style-type: none"> <li>• Plates</li> </ul>	<p><b>Materials for Cleaning Up:</b></p> <ul style="list-style-type: none"> <li>• Dish soap</li> <li>• Scrubber (for dishes)</li> <li>• Drying rack</li> <li>• Kitchen towels</li> <li>• Trash, recycling, and compost bins</li> <li>• Sponge (for counters)</li> <li>• Broom and dustpan</li> </ul>
<p><b>Assessment:</b> Observations</p>	
<p><b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>• Set up for the lesson introduction</li> <li>• Set up for cooking, including specific steps for preparing different stations when relevant</li> <li>• Set up for enjoying the food</li> <li>• Set up for clean-up</li> </ul>	
<p><b>Additional Resources:</b></p> <ul style="list-style-type: none"> <li>• Where Does Our Food Come From? by Bobbie Kalman</li> <li>• Where Does Food Come From? by Alan Walker</li> </ul>	



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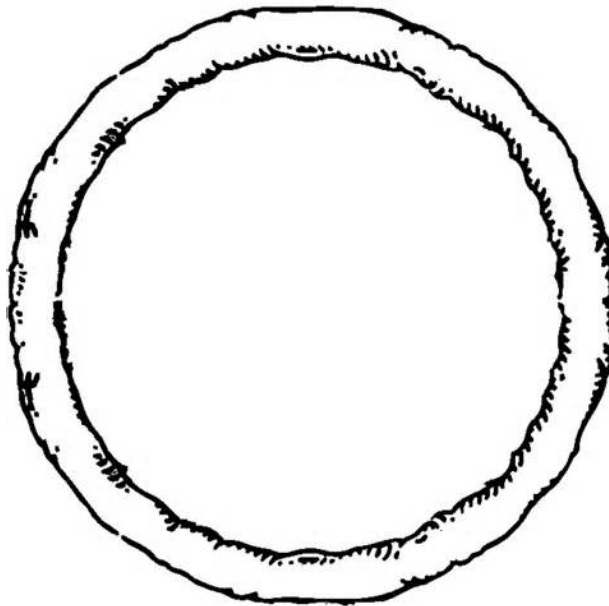
<p> Engage: Ignite Interest</p> <ul style="list-style-type: none"> <li>● Read <a href="#">Before We Eat: From Farm to Table</a> by Pat Brisson.             <ul style="list-style-type: none"> <li>○ Tell students to put their hands on their head every time they hear about a new food profession.</li> <li>○ As you read, stop every time a new food profession is mentioned to have students discuss and explain what those people do to help us get our food.</li> <li>○ Ask students if they know anyone who does any of the things mentioned.</li> <li>○ When the book is finished, discuss our role in the food system, as consumers.</li> </ul> </li> </ul>	
<p> Explore: Stir Discoveries</p> <ul style="list-style-type: none"> <li>● Watch one of the following videos and discuss food systems/food chains:             <ul style="list-style-type: none"> <li>○ <a href="#">The Food Chain for Kids</a> - Learn Bright</li> <li>○ <a href="#">What is a Food Chain?</a> - Peekaboo Kidz</li> </ul> </li> <li>● Create a food chain together ending with “us” as the consumer.</li> </ul>	
<p> Explain: Clarify New Ideas</p> <ul style="list-style-type: none"> <li>● Complete <a href="#">Where Does Our Food Come From? Sort</a></li> </ul>	
<p> Elaborate: Watch It Rise</p> <ul style="list-style-type: none"> <li>● Allow each student to make their own pizza slice with toppings of choice.             <ul style="list-style-type: none"> <li>○ At minimum, students should put sauce and cheese on their slice of pizza.</li> </ul> </li> <li>● While their pizzas bake, have each student complete the <a href="#">handout</a> tracing back their ingredients.</li> </ul>	
<p> Evaluate: Reflect</p> <ul style="list-style-type: none"> <li>● Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.</li> <li>● Share appreciation for each of their individual contributions to the kitchen and to the community, and for their respect for the kitchen. Express excitement for your next time together.</li> </ul>	
<p> Connections to Garden Lessons:</p> <p>As you harvest and/or prepare food together, discuss with your students: “How are we being farmers, bakers, chefs, etc., right now?”</p>	<p> Possible Extensions:</p> <p>Send student drawings and letters to local farmers, chefs and the like.</p>

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Where Did this Come From?

Draw and color the pizza you created. Write down the ingredients you used and where they came from.



My pizza has...	It came from...

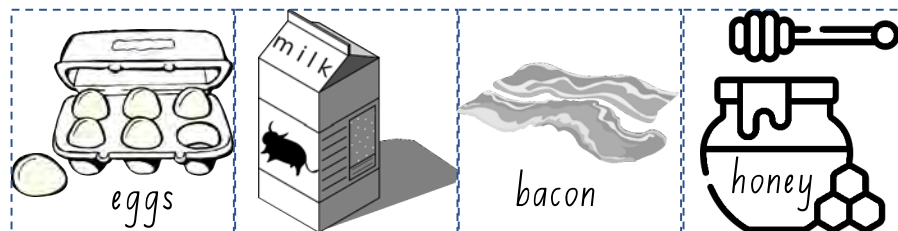
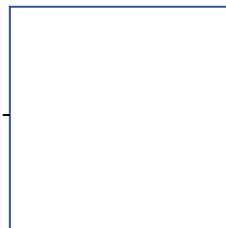
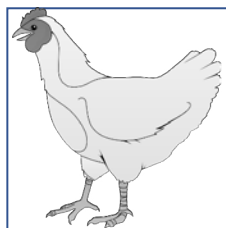
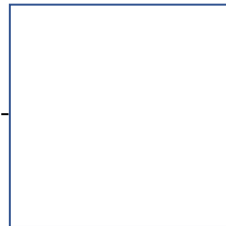
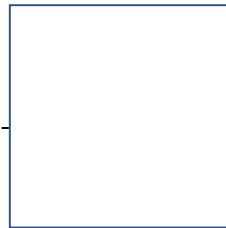
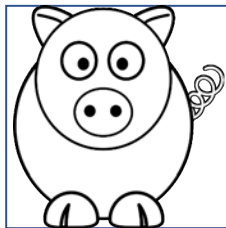
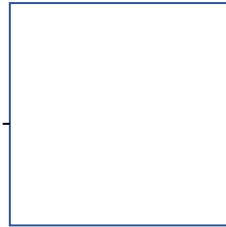


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## Where does our food come from?

Match the animals with the food they give us.



Source credit: Where does our food come from?



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# MELON & FRUIT KABOBS

*Kitchen*

Grade 1 • 40 mins • Fall, Winter, Spring, Summer

NEW!

GRADE 1

SCHOOL PARTNER  
LESSON PLAN

## ESSENTIAL QUESTIONS

- How do we work together to complete recipes?

## MATERIALS

- Pre-cut fruit: Watermelon
- Cantaloupe
- Strawberries
- Bananas
- Grapes
- Wooden skewers
- Bowls for different fruits
- Cutting board
- Paper plates
- Paper towels
- Honey or yogurt for dipping

## ASSESSMENT

- Observation, Finished product

## PREPARATION (30 MINS)

Set up stations with pre-cut fruits, skewers, cutting boards and bowls

## LESSON DESCRIPTION

This is a good beginning lesson to help students learn how to work together and share materials. They will practice basic kitchen skills and work with team members to finish beautiful kabobs together.

## LEARNING OBJECTIVES

- By the end of the lesson, students will be able to work as a team to create fruit kabobs using various fruits, and understand the importance of collaboration and cooperation.

## Content Learning Objectives

*Culinary Flavors and Textures*

**CFT.1.2** Name and describe taste sensations.

## Life Skills Learning Objectives

*Community Life Skills*

**CLS.2** Students cooperate and communicate well with each other.



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## HEALTH STANDARD CONNECTIONS

**K-2.5.7.14** Recognize a nutritious meal or snack.*Lesson Sequence**Engage***Ignite Interest:**

Show students the ingredients of the day and ask them to use their senses to describe the colors, shapes, tastes and smells. Ask the students which fruits are their favorites and if they have ever tried fruit kabobs before. Discuss how working as a team can help accomplish tasks more efficiently and promote cooperation and friendship.

*Explore***Stir Discoveries:**

Instruct students to work in teams to create beautiful kabobs and arrange them in a way that is appealing. Demonstrate how to create the kabobs safely (there is a pointy end) and how to create patterns.

*Explain***Clarify New Ideas:**

Provide each team with wooden skewers. Instruct the students to work together to create their fruit kabobs by selecting fruits and threading them onto the skewers. Encourage them to think creatively and consider color patterns or alternating fruit types to make their kabobs visually appealing.

*Elaborate***Watch It Rise:**

Instruct each team to place their completed fruit kabobs on plates or trays. Have each team present their kabobs to the class, allowing them to describe the fruits they used and their design choices. Discuss the different combinations and ask the students to share what they like about their fruit kabobs.

*Evaluate***Reflect:**

Eat the completed kabobs together! Talk about whether or not the presentation makes the fruit taste better.

# COMPOST CRACKER STACKS

Kitchen

## TIME AND LENGTH

45 min

ADAPTED

GRADE 2

SCHOOL PARTNER  
LESSON PLAN

## LOCATION

Kitchen Classroom



## ESSENTIAL QUESTIONS

How and why do we compost?



## MATERIALS

- Reusable Plates
- Butter knives
- Compost anchor chart
- Box of whole grain crackers
- Hummus
- Snap peas
- Broccoli (or other green material/food from the garden)



## VOCABULARY

- Compost
- Green Matter & Brown Matter
- Fungi
- Bacteria
- Insects
- Nitrogen
- Carbon

## TEACHER BACKGROUND

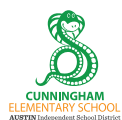
Composting: 10 Things You Didn't Know

## LESSON DESCRIPTION

Students visit the garden and are introduced to the compost pile. Students return to the kitchen to make compost cracker stacks, which represent the layering of green and brown matter in compost.

### NOTE:

Adapted from **Grade K Garden Lesson #6: Mini Compost Piles**, pg. 99 and **Grade K Kitchen Lesson #5: Edible Compost Piles**, pg. 258.



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## LEARNING OBJECTIVES

- Students learn the basic structure of a compost pile and how to layer between green and brown matter
- Students learn how to classify different things as green or brown matter.

**Life Skills Learning Objectives***Personal Like Skills*

- PLS.1** Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.
- PLS.2** Students are able to express empathy and caring for themselves, others, and the environment.
- PLS.3** Students cultivate honest and responsible behaviors that contribute to the learning of the community.
- PLS.4** Students are active and engaged learners who show up on time prepared to learn and manage their time wisely.
- PLS.5** Students develop the ability to make informed and responsible decisions.
- PLS.6** Students actively seek creative and resourceful solutions.

*Community Life Skills*

- CLS.5** Students participate in the development of agreed upon protocols and behaviors for the garden and kitchen environments.

## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Adopted 2017**

- 2.1 Scientific investigation and reasoning.** The student conducts classroom and outdoor investigations following home and school safety procedures. The student is expected to:
- (B) identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal.
- 2.5 Matter and energy.** The student knows that matter has physical properties and those properties determine how it is described, classified, changed, and used. The student is expected to:
- (A) classify matter by physical properties, including relative temperature, texture, flexibility, and whether material is a solid or liquid
- (B) compare changes in materials caused by heating and cooling
- (C) demonstrate that things can be done to materials such as cutting, folding, sanding, and melting to change their physical properties

*Lesson Sequence*

- Engage* **Ignite Interest (5 mins):**  
Visit compost piles in garden
- Explore* **Stir Discoveries (20 mins):**  
Look at compost and put food scraps and leaves/sticks in it—learn how to pile brown matter/green matter/brown matter/green matter
- Explain* **Clarify New Ideas (5 mins):**  
Anchor chart for compost pile and alternating between brown and green matter
- Elaborate* **Watch It Rise (5 mins):**  
Make compost cracker stacks that represent the pattern of brown/green/brown/green
- Evaluate* **Reflect (10 mins):**  
Compost material identification sheet. Reflection on experience.



## ADAPTATIONS

Indoor or outdoor activity

## CONNECTIONS TO THE GARDEN/KITCHEN LESSONS

- Composting in the garden
- FBI acronym for fungus, bacteria and invertebrates (the Garden “FBI”)
- What and why do we compost?
- **Grade 2 Garden Lesson #3: Building Compost**, pg. 133

## POSSIBLE EXTENSIONS

Have students take leftover food out to garden compost and add it to the pile, layer green matter/brown matter/green matter/brown matter or have students start collecting compost in their classrooms.

## ADDITIONAL RESOURCES

- [Composting 101](#)
- [Compost Chemistry](#)

# GUACAMOLE

Kitchen

## TIME AND LENGTH

45 min

## LOCATION

Kitchen Classroom

## ? ESSENTIAL QUESTIONS

What are healthy and unhealthy fats? What foods are examples of each?



## MATERIALS

- Lettuce knives
- Mixing bowls
- Cutting boards
- Juicer
- Plastic serving plates
- Chips
- Recipe ingredients
- Garlic Press
- Olive Oil

## Abc VOCABULARY

- Fat (saturated and unsaturated)
- Cilantro
- Guacamole
- Cuisine
- Culinary Arts
- Avocados

## TEACHER BACKGROUND

[Food Origins](#)

### NOTE:

Adapted from **Grade 5 Kitchen Lesson #5: Fiesta Quesadillas with Simple Salsa and Holy Moly Guacamole**, pg. 532.

ADAPTED

GRADE 2

SCHOOL PARTNER  
LESSON PLAN

## LESSON DESCRIPTION

Students will make and eat guacamole using produce from the garden. Students will also learn about healthy and unhealthy fats.

## LEARNING OBJECTIVES

- Students will be able to identify foods that there are sources of healthy and unhealthy fats.
- Students will talk and learn about the origins and cultural influence on cuisines.

## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Social Studies, Elementary, Adopted 2018**

**2.12 Culture.** The student understands ethnic and/or cultural celebrations. The student is expected to:

- (A) identify the significance of various ethnic and/or cultural celebrations
- (B) compare ethnic and/or cultural celebrations

**Texas Essential Knowledge and Skills (TEKS) for Mathematics, Elementary, Adopted 2012**

**2.1 Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

- (A) apply mathematics to problems arising in everyday life, society, and the workplace

**2.3 Number and operations.** The student applies mathematical process standards to recognize and represent fractional units and communicates how they are used to name parts of a whole. The student is expected to:

- (A) partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words
- (C) use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole

## HEALTH STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Health Education, Elementary, Adopted 2020**

**1.6 Healthy eating and physical activity—food and beverage daily recommendations.** The student identifies and explains healthy eating strategies for enhancing and maintaining personal health throughout the lifespan. The student is expected to:

- (A) explain that fruits, proteins, vegetables, and dairy provide essential vitamins and minerals
- (B) identify recommended portion sizes by comparing portions to familiar objects such as a golf ball for a cookie or a frisbee for a dinner plate
- (C) identify the food groups and classify examples of foods into each group
- (D) identify ingredients that make foods and drinks unhealthy such as added sugar and other sweeteners

**2.6 Healthy eating and physical activity—food and beverage daily recommendations.** The student identifies and explains healthy eating strategies for enhancing and maintaining personal health throughout the lifespan. The student is expected to:

- (A) identify types of nutrients
- (B) use familiar objects to identify healthy food portions from different food groups
- (C) identify healthy and unhealthy choices within the food groups

*Lesson Sequence**Engage***Ignite Interest (10 mins):**

Welcome students to the classroom, harvest cilantro in the garden before entering the kitchen, talk about how there are healthy and unhealthy fats. One source of healthy fats are avocados! Different cultures have different cuisines. One way we can honor and celebrate different cultures is by trying new foods.

*Explore***Stir Discoveries (20 mins):**

Watch short video about different types of fats, wash hands, prepare guacamole together as a class and eat it. How to read and follow a recipe

*Explain***Clarify New Ideas (5 mins):**

“The Kitchen Times”—kid friendly newspaper article that explains the different types of fats and what different foods have healthy and unhealthy fats



*Elaborate* **Watch It Rise (5 mins):**

Explain saturated v. unsaturated fats—Be sure to say that it's OK to eat foods that contain unhealthy fats once in a while. We just want to make sure that we are eating more healthy fats more often than unhealthy fats.

Healthy fats help our bodies stay strong and have plenty of energy so that we can stay active. They also help our brains think faster! Unhealthy fats can make us feel tired and foggy-brained. They also can clog our arteries over time causing health problems when we are older. We want to stay healthy so we can live for a long time and be able to enjoy doing all of the things outside that we love to do—like hiking, swimming, sports, gardening.

*Evaluate* **Reflect (5 mins):**

Explore experience—

Ask students what they think of their creation.

- i. "What do you think?"
- ii. "What flavors are you experiencing?"
- iii. "Would you add anything to it to make it even tastier?"
- iv. "Who would you like to share this with?"

Gratitude—Take a deep breath and think about different cultures and different dishes we enjoy from them. Think about all of the different cuisines in our world and how thankful we are for our different cultures. Take a moment to be thankful for how your food got to you today. Say, "Can we agree that we are grateful for different cultures and their different foods?"

 **ADAPTATIONS**

This lesson can be adapted for different types of healthy fat foods.

**ADDITIONAL RESOURCES**

- [Healthy and unhealthy fats](#)

# THREE SISTERS NACHOS

Kitchen

Grade 2 • 40 mins • Spring

NEW!

GRADE 2 | SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

- What does it mean to “get along” as a plant or food?

## 🍲 MATERIALS

- Tortilla chips
- Cooked black beans (canned or cooked from dried beans)
- Diced butternut squash (frozen and thawed)
- Shredded cheese (cheddar or Mexican blend)
- Salsa or guacamole (optional)
- Plates
- Spoons for serving
- Baking sheets

## ✓ ASSESSMENT

- Observation and finished product

## PREPARATION (20 MINS)

Set up per station with pre-portioned ingredients

## TEACHER BACKGROUND

- Review the [three sisters legend](#) and planting techniques.
- Review the recipe [Three Sisters Nachos](#)

## LESSON DESCRIPTION

This is a delicious way to explore the mythology and indigenous planting technique of the Three Sisters. Students will learn about the story of the three sisters and make nachos using corn (chips), beans, and squash.

## LEARNING OBJECTIVES

- Students will be able to understand the concept of the “Three Sisters” agricultural technique used by Indigenous peoples and make a delicious and nutritious snack called “Three Sisters Nachos” using corn, beans, and squash.

## Content Learning Objectives

### Recipe Concepts

- RC.2.1** Describe how traditional foods and recipes function in social contexts of families and communities, and cultural traditions and celebrations.



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**Life Skills Learning Objectives***Personal Life Skills*

**PLS.2** Students are able to express empathy and caring for themselves, others and the environment.

*Community Life Skills*

**CLS.2** Students cooperate and communicate well with each other.

## HEALTH STANDARD CONNECTIONS

**3-5.5.7.12** Plan or prepare a nutritious snack and justify its nutritional value.

*Lesson Sequence**Engage***Ignite Interest:**

Begin by discussing the concept of the “Three Sisters” agricultural technique used by Native American tribes, which involves planting corn, beans, and squash together to support each other’s growth. Show pictures or diagrams of the Three Sisters planting technique to help the students visualize it. Talk about the benefits of the Three Sisters technique, such as how corn provides support for the beans to climb, beans add nitrogen to the soil, and the large leaves of squash act as a natural mulch, preventing weed growth and keeping the soil moist.

*Explore***Stir Discoveries:**

Provide each group with tortilla chips, black beans, squash, and shredded cheese. Instruct the students to work together to layer the tortilla chips on their baking sheets, creating a base for the nachos.

*Explain***Clarify New Ideas:**

Instruct the students to sprinkle the black beans, and cooked or canned squash evenly over the tortilla chips. Encourage the students to work together and distribute the toppings evenly, just like the Three Sisters support and complement each other in the garden. Add cheese. Students will bring their trays to the oven area and the teacher will bake the nachos at 350 for 10 minutes. Serve warm.

*Elaborate***Watch It Rise:**

While the nachos are cooking in the oven, discuss the importance of sharing and working together as a team, just like the Three Sisters work together in the garden.

*Evaluate***Reflect:**

Serve and eat the nachos.

## POSSIBLE EXTENSIONS

Create a Three Sisters poster or display showcasing the planting technique and the benefits of growing corn, beans, and squash together. Explore other Native American traditions and cultural practices related to food and agriculture. Plant a 3 sisters garden in the school garden.



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# WATERMELON & PEACH END OF SUMMER SALAD

*Kitchen*

## TIME AND LENGTH

45 min

NEW!

GRADE 2 | SCHOOL PARTNER  
LESSON PLAN

## LOCATION

Kitchen Classroom



## ESSENTIAL QUESTIONS

What does it mean to eat locally and with the seasons? Why should we do it?



## MATERIALS

- Lettuce knives
- Melon balls
- Mixing bowls
- Cutting boards
- Juicer
- Paper cups x 450
- Eating utensils
- Recipe ingredients



## VOCABULARY

- Seasons
- Eating locally
- Produce
- Recipe

## TEACHER BACKGROUND

[Seasonal Food Guide](#)

## LESSON DESCRIPTION

Students will make and eat a fruit salad using seasonally available produce.

## LEARNING OBJECTIVES

- Students will be able to identify seasonal produce for the summer months.
- Students will identify seasons and community helpers (i.e. farmers) and their roles in working with the seasons.



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## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

**2.8 Earth and space.** The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:

- (B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation

**Texas Essential Knowledge and Skills (TEKS) for Social Studies, Elementary, Revised 2022**

**2.7 Economics.** The student understands the roles of producers and consumers in the production of goods and services. The student is expected to:

- (C) trace the development of a product from a natural resource to a finished product.

**Texas Essential Knowledge and Skills (TEKS) for Mathematics, Elementary, Revised 2022**

**2.1 Mathematical process standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

- (A) apply mathematics to problems arising in everyday life, society, and the workplace

**2.3 Number and operations.** The student applies mathematical process standards to recognize and represent fractional units and communicates how they are used to name parts of a whole. The student is expected to:

- (A) partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words
- (B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation
- (C) use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole

**Texas Essential Knowledge and Skills (TEKS) for Social Studies, Elementary, Revised 2022**

**2.7 Economics.** The student understands the roles of producers and consumers in the production of goods and services. The student is expected to:

- (C) trace the development of a product from a natural resource to a finished product.

**Texas Essential Knowledge and Skills (TEKS) for Mathematics, Elementary, Revised 2022****2.1 Mathematical process standards.**

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## HEALTH STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Health Education, Elementary, Adopted 2020**

**2.6 Healthy eating and physical activity**—food and beverage daily recommendations. The student identifies and explains healthy eating strategies for enhancing and maintaining personal health throughout the lifespan. The student is expected to:

- (A) identify types of nutrients
- (B) use familiar objects to identify healthy food portions from different food groups
- (C) identify healthy and unhealthy choices within the food groups
- (D) identify the benefits of making healthy beverage choices, including water and milk, and limiting sweetened beverages such as soda and sports drink

*Lesson Sequence**Engage***Ignite Interest (5 mins):**

Tell students that different foods need different climates to grow. Different foods grow during the different seasons. Some foods need lots of rain, some need cold temperatures, and others need tropical climates. That's why some foods only grow at certain times of the year. Ask students if they can recall the four seasons What season are we currently in? Summer! But it is almost Fall, so we need to hurry up and eat the leftover summer produce before it goes bad.

*Explore***Stir Discoveries (20 mins):**

Use knives and melon ballers to prepare fruit salad. Use seasonal ingredients. Student Recipe Prepare and eat watermelon and peach end of summer salad. How to read and follow a recipe.

*Explain***Clarify New Ideas (5 mins):**

Explain that farmers grow different produce in different seasons and why. How do the seasons affect the plants? Why is it important to eat produce that is in season?

*Elaborate***Watch It Rise (5 mins):**

Certain foods need hot or cold weather or more rain to grow. That's why you find different foods at the Farmer's Market throughout the year. Explain that grocery stores are different? They can get food from far away regions (even across the world) and store them for long periods in cold warehouses throughout the year, so you may see oranges in August even though the best time to harvest them is in December and January. Explain that it is not always possible to get to the Farmer's Market. Eating fruits and vegetables is important no matter where they are purchased.

*Evaluate***Reflect (10 mins):**

Reflect on experience—

Ask students what they think of their creation.

- i. “What do you think?”
- ii. “What flavors are you experiencing?”
- iii. “Would you add anything to it to make it even tastier?”
- iv. “Who would you like to share this with?”

Gratitude—Take a deep breath and think about the farmers/growers who grow our food. Think about all of the weather conditions and issues they face while working to provide for us. Take a moment to be thankful for how your food got to you today. Say, “Can we agree that we are grateful for the farmers who grow our food and all of the people who help get it to our tables.”

## ADAPTATIONS

This lesson can be adapted for every season.

## CONNECTIONS TO THE GARDEN/KITCHEN LESSONS

Check to see what is growing in the garden and try to bring that into the dish. Have students taste it in the garden before making it in the kitchen classroom. For this lesson, we used mint and students had the chance to try this out on the farm during their first garden lesson.

## POSSIBLE EXTENSIONS

Meet the farmer video

## ADDITIONAL RESOURCES

- <https://www.thefreshmarket.com/inspiration/recipe-and-ideas/watermelon-and-peach-summertime-salad>

Watermelon & Peach Summertime Salad

Ingredients:

- 1 tblsp of honey
- 2 c watermelon: cut into 1 in cubes
- 1 c fresh mint, *chopped*
- 1 lime: *zested and juiced*
- 2 peaches: *peeled, pitted, and cut into ½ in cubes*
- Salt to taste

Directions:

In a large bowl, *whisk* together honey, lime zest and juice and salt. Add the watermelon, peaches, and mint and gently *toss* everything to combine.

Watermelon & Peach Summertime Salad

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ADAPTED							GRADE 2						
Lesson	Topic	Content Learning Objective(s)	Lesson Activity	Life Skills Learning Objective(s)	Academic Standard Connections	Health Standards							
Welcome to the Kitchen!  Hand Washing 	Personal and Community Life Skills <b>(CLS and PLS)</b>  Food Preparation <b>(FP)</b>	<b>FP.2.1</b> Demonstrate ability to properly handle, wash and prepare fruits and vegetables.	Engage students by asking them “how clean are your hands?” Have students go to corners of the room that describe how clean their hands are.  Then, have students rub their hands with Glow Germ. Place students in groups and have them wash their hands for 10 seconds, 30 seconds and then 1 minute. Have students observe their hands for differences after each washing. Then, have each group discuss the importance of washing hands when in the kitchen and in daily life.	<b>CLS.5</b> Students participate in the development of agreed upon protocols and behaviors for the garden and kitchen environments.	<b>CCSS.ELA-LITERACY.SL.2.1</b> Participate in collaborative conversations with diverse partners about <i>grade 2 topics and texts</i> with peers and adults in small and larger groups.	<b>National Health Education Standard 7:</b> Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.							

Note: This lesson was adapted from **Grade 2 Kitchen Lesson #1: Welcome to the Kitchen!**, pg. 288.



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# WELCOME TO THE KITCHEN

## HAND WASHING EXPERIMENT

*Kitchen*



### MATERIALS

- Black light or ultraviolet light
- Sink
- Pen/crayons
- Towels
- Powder or gel that simulates the presence of germs on students' hands.

ADAPTED

GRADE 2

SCHOOL PARTNER  
LESSON PLAN

These products are commercially available:

- [Glo Germ](#)
- [Germ Juice](#)
- [GlitterBug \(Brevis\)](#)

### PROCEDURE

1. Have students develop a chart that will help them score how clean their hands are. Divide a piece of paper into four sections. Trace the outline of a hand in each section. Now have students use pens or crayons to shade their idea of completely dirty, very dirty, dirty, and slightly dirty. Label the completely dirty hand as +++, the very dirty hand as ++, and so on. Use a minus sign ( - ) to represent "completely clean." For consistency, choose one or two students to act as the judge. Other students can act as recorders.
2. Have students construct a data table to record their results.

Washer	Washing Time in Seconds				
	0	5	10	15	20
Student 1					
Student 2					
Student 3					
Student 4					
<b>Average</b>					

3. Spread some of the germ-simulating powder or gel on a student's hands. Spread it evenly over both hands, including the backs of the hands and the skin next to and under the fingernails. Allow hands to dry completely (this should take a minute or two). Then place the student's hands under the black or UV light.



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4. Under the light, the “germs” will show up. Have students use the chart to determine the cleanliness of the washer’s hands. Enter it on their data table. Label this “0 seconds.”
5. Have the student wash hands for five seconds. Stop and check the cleanliness of the hands under the black or UV light. Record this as “5 seconds.”
6. Have the student wash hands for five additional seconds. Stop and check under the black or UV light. Record this as “10 seconds.”
7. Repeat the procedure twice more, for 15 and 20 seconds. Each time, have students record the level of cleanliness.
8. Change roles and repeat the activity until everyone (including the judges) has had a turn being the hand washer.
9. Have students graph their results. Put the time on a horizontal line going across the page. Mark every number between 0 and 20 seconds. Put the average cleanliness scores on the vertical line.

Washer	Washing Time in Seconds				
	0	5	10	15	20
Maria	++++	+++	++	+	—
LaToya	++++	+++	++	+	—
James	++++	++++	+++	++	+
Jacob	++++	+++	++	+	—
<b>Average</b>	++++	+++	++	+	—



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# COOKING WITH WHAT'S IN ABUNDANCE

*Kitchen*

## TIME AND LENGTH

45 min

ADAPTED

GRADE 3

SCHOOL PARTNER  
LESSON PLAN

## LOCATION

Kitchen Classroom



## ESSENTIAL QUESTIONS

Why is it important to eat foods that are in season? What's the point?



## MATERIALS

- Mixing bowl
- Measuring spoons
- Food processor
- Book about pumpkins

## Hummus Ingredients

- 1–2 cloves roasted garlic (prep ahead of time)
- 2 tablespoons of olive oil
- 2 tablespoons of water
- 1 can of chickpeas, drained and rinsed
- 2–3 cups of pumpkin puree
- 1 tablespoon of maple syrup or honey
- ½ teaspoon of rosemary (from the garden!)
- Salt to taste
- Serve with pita bread and carrots



## VOCABULARY

- Hummus
- Seasonal
- Measuring spoons
- Food processor

## NOTE:

Adapted from **Grade 3 Kitchen Lesson #16: Cooking with What's in Abundance**, pg. 303.

## TEACHER BACKGROUND

Pumpkins7 Things You Didn't Know About Hummus

## LESSON DESCRIPTION

Students will learn about the origins of hummus as well as prepare a seasonal dish—Pumpkin Hummus. This lesson fits well close to Halloween when many students are carving jack o'lanterns at home.

## LEARNING OBJECTIVES

- Students learn the basic structure of a compost pile and how to layer between green and brown matter
- Students learn how to classify different things as green or brown matter.

**Content Learning Objectives***Health Concepts*

**HC.3.2** Demonstrate an understanding of local and seasonal foods.

**HE.3.3** Describe abundance and the causes of abundance in the garden

**Life Skills Learning Objectives***Personal Life Skills*

**PLS.1** Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.

**PLS.2** Students are able to express empathy and caring for themselves, others, and the environment.

**PLS.3** Students cultivate honest and responsible behaviors that contribute to the learning of the community.

**PLS.4** Students are active and engaged learners who show up on time prepared to learn and manage their time wisely.

**PLS.5** Students develop the ability to make informed and responsible decisions.

**PLS.6** Students actively seek creative and resourceful solutions.

*Community Life Skills*

**CLS.5** Students participate in the development of agreed upon protocols and behaviors for the garden and kitchen environments.

## ACADEMIC STANDARD CONNECTIONS

**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Adopted 2017**

**3.9 Organisms and environments.** The student knows and can describe patterns, cycles, systems, and relationships within the environments. The student is expected to:

- (C) describe environmental changes such as floods and droughts where some organisms thrive and others perish or move to new locations

**Texas Essential Knowledge and Skills (TEKS) for Social Studies, Elementary, Adopted 2018**

**3.6 Economics.** The student understands the concept of the free enterprise system and how businesses operate in the U.S. free enterprise system. The student is expected to:

- (A) explain how supply and demand affect the price of a good or service
- (B) define and identify examples of scarcity
- (C) explain how the cost of production and selling price affect profits

*Lesson Sequence**Engage***Ignite Interest (10 mins):**

Walk with students out to the garden to harvest and wash rosemary. Talk about how we try to cook with what's in abundance in the garden and what that means.

*Explore***Stir Discoveries (25 mins):**

Prepare and eat hummus

*Explain***Clarify New Ideas (5 mins):**

Use pumpkin puree since pumpkins are what's in season and thus what is considered to be in abundance.

*Elaborate***Watch It Rise (5 mins):**

Seasonality of food

*Evaluate***Reflect (5 mins):**

Ask students to reflect on their experience Gratitude Practice.

**ADAPTATIONS**

This lesson can be adapted to use whatever is currently growing in your garden. It can be used throughout the year.

**CONNECTIONS TO THE GARDEN/KITCHEN LESSONS**

What's growing in our garden?

**POSSIBLE EXTENSIONS**

Students plant certain foods/herbs that they would like to try next time you make hummus together.

# EDNA LEWIS' APPLE CRISP

Kitchen

Grade 3 • 40 mins • Fall

NEW!

GRADE 3

SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

- What are the different ways that seeds can spread and be planted?

## 🍲 MATERIALS

- Large apples (enough for each student to have ½)
- Butter
- Flour
- Rolled oats
- Brown sugar
- Cinnamon
- Nutmeg
- Baking dish
- Mixing bowls
- Measuring cups and spoons
- Mixing spoons
- Knives (ensure appropriate safety measures)
- Cutting Board

## Abc VOCABULARY

- Compost

## ✓ ASSESSMENT

- Observation and finished product

## PREPARATION (40 MINS)

Pre-peel and core apples (students will slice and chop), premeasure the dry ingredients into small containers.

## TEACHER BACKGROUND

- Read *Bring Me Some Apples and I'll Make You a Pie*
- Watch [Cuisine Corner Jr.: Edna Lewis' Apple Crisp](#)

## LESSON DESCRIPTION

After reading *Bring Me Some Apples and I'll Make You a Pie*, students will work in teams to prepare Edna Lewis' Apple Crisp recipe. This lesson will focus on practicing knife skills and following the steps of a recipe, and will not spend as much time practicing measuring.



CREATED BY  
DC Bilingual in 2023

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## LEARNING OBJECTIVES

- Students will practice their knife skills to prepare a recipe from the book *Bring Me Some Apples and I'll Make You a Pie*.

**Content Learning Objectives***Kitchen Tools and Equipment*

**KTE.3.1** Use tools introduced in previous grades independently.

**KTE.3.2** Name, identify, locate and safely use new tools.

**KTE.3.3** Explain form and function of new tools/equipment.

**KTE.3.4** Select the correct tool to perform and complete a task with minimal instructor input.

*Lesson Sequence**Engage***Ignite Interest:**

Start the class by asking “What were some foods that Edna Lewis would harvest with her family” How did she prepare them?” “Today we will prepare one of Edna Lewis’ special recipes—an apple crisp. To make this recipe, we will need to practice careful knife skills” Have a student volunteer come and show the safe way to chop the apples.

*Explore***Stir Discoveries:**

Provide each student with 1/2 a peeled, cored apple and a knife. Instruct the students to slice them into thin slices. If needed, demonstrate the safe way to handle the knife and slice the apples. After slicing, chop the slices into smaller, even pieces. Students will place chopped apples into one baking dish per table, and toss with cinnamon and sugar.

*Explain***Clarify New Ideas:**

Instruct the students to gather mixing bowls and pre-measured ingredients: flour, rolled oats, brown sugar, cinnamon, nutmeg, and softened butter. Explain that they need to mix the ingredients together with a fork until it forms a crumbly texture. Sprinkle topping mixture atop the apples. The students will bring the dishes to the ovens to bake at 375 for 30 minutes.

*Elaborate***Watch It Rise:**

Explain to the students that there will not be time in class to bake AND eat the crisp, but they will be able to get portions later (arrange with the classroom teacher). After cleaning up the tables, students will write the recipe down in their Food Lab Journals and illustrate.

*Evaluate***Reflect:**

Talk as a class—how did the recipe go? What was easy? What was difficult? Encourage students to give “olé”s to their peers who showed good teamwork.



Grade 3 • 45 mins • Fall

ADAPTED

GRADE 3

SCHOOL PARTNER  
LESSON PLAN

## Submitted by

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## ? ESSENTIAL QUESTIONS

- How do we taste foods?
- What part(s) of our bodies deliver information about the taste of foods to our brains?
- What words can we use to describe taste?
- What are some examples of foods that have the following tastes: sweet, bitter, salty, sour?

## Abc VOCABULARY

- Senses/Sensory/Sensation
- Taste buds
- Receptors

## ✓ ASSESSMENT

- Student Journals
- **Class Life Skills Observational Checklist**

## 🍲 MATERIALS

### Materials for Introduction

- Student Journals
- Dry erase board or chart paper with Sweet, Salty, Sour, Bitter, and Umami written on left and Lime, Pineapple, Tortilla Chip, and Arugula written on the right.
- Picture of tongue with taste buds evident.  
This can be hand drawn or projected onto wall or smart board from internet.

### Equipment

#### *For Each Group of 10*

- 4 Large bowls and spoons or tongs. One for each sample.
- 10 Plates
- 10 Forks

#### *For Whole Class*

- 12 Large bowls and spoons or tongs. One for each sample.
- 30 Plates
- 30 Forks

### Ingredients

- 1/8 lime per student
- 2 chunks pineapple per student
- 2 tortilla chips per student
- 2–3 pieces arugula per student (arugula can be found in garden, or can be substituted for other bitter greens in garden such as mustard.)

### Materials for Enjoying the Food

- Forks

### Materials for Cleaning Up

- 1 spray bottle of cleaner per table
- 2 cloth towels per table
- Sink with available sponges and dish soap for cleaning dishes
- Dish towels for drying.

## NOTE:

Adapted from **Grade 3 Kitchen Lesson #2: Flavors**, pg. 307.

## PREPARATION

- Draw picture of tongue on dry erase board or find suitable visual to project onto board or smartboard.
- Write foods to sample and first 4 major tastes onto dry erase board or chart paper.
- Cut limes into eighths, and pineapple into small chunks (canned pineapple can be used) and place these into bowls for serving. Divide bagged tortilla chips into bowls for serving. Harvest arugula if available or purchase arugula and place into bowls for serving.

## TEACHER BACKGROUND

Taste is a sensation that begins when food enters our mouths. On the surface of our tongue are small bumps called papillae. Each of these papilla holds as many as 10,000 taste buds, and each of these taste buds contain 50–150 receptor cells. As we eat, saliva in our mouths break down chemicals in foods. The chemicals enter holes in your taste buds and interact with the receptor cells. Signals are sent to the brain by the receptor cells and these signals are combined with other information on the food that is derived from your sense of smell. The combination of this information results in the experience of flavor. There are four tastes that we generally recognize: Sweet, Salty, Bitter, and Sour. Foods that contain glutamate (msg) cause us to experience a fifth flavor known as umami (and sometimes referred to as savory.) In addition to being a receptor for taste our tongue can perceive pressure, temperature and pain. This allows us to experience other aspects of food beyond taste and to be able to identify foods as hot,cold, spicy or as having a particular texture. Some people have more taste buds than others and can be highly sensitive to certain tastes. As we age our taste buds decrease and change and this can explain why we may grow to like foods that we once found distasteful.

## LESSON DESCRIPTION

Students will learn how taste receptor cells on the tongue send information to our brains that allow us to interpret the taste of foods. Students will sample 4 foods relative to the first 4 major tastes and report what flavors they associate them with.

## LEARNING OBJECTIVES

**Content Learning Objectives***Culinary Flavors and Textures*

**CFT.3.1** Demonstrate an understanding of taste sensations.

**CFT.3.2** Describe foods and their flavor attributes.

**Life Skills Learning Objectives***Personal Life Skills*

**PLS.4** Students are active and engaged learners who show up on time prepared to learn and manage their time wisely.

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELALITERACY.W.3.2.C** Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information.

## HEALTH STANDARD CONNECTIONS

**National Health Education Standard 4:** Students will demonstrate the ability to use interpersonal communication skills to **(CFT.3.2.)** describe foods and their flavor attributes enhance health and avoid or reduce health risks.

*Lesson Sequence***Preparation to Cook (3 mins)**

Prior to beginning their taste tests students will need to thoroughly wash their hands and then return to their seats.

**Recipe Introduction:**

Teacher will ask students if they think that everyone's tongue has exactly the same number of tastebuds. When students answer "no", teacher will ask students if they think that the same food might taste different to them as it does to another person. If all people perceive the taste of food differently then will something that tastes "good" or "great" necessarily taste that way to someone else?

Students will be asked to recollect on a dish that they ate recently. Students should visualize the food in their mind and see if they remember how it tastes.

Students will be asked to challenge themselves to describe the food to a classmate without the use of non-specific adjectives such as good, great, or bad. Instead, students should be able to describe the food based on their sensory elements. What did the food look like? What did it feel like in their mouth (i.e. soft, chewy, crunchy, etc.)? What did it smell like? Most importantly, what did it taste like? What adjectives would you use to describe the taste?

Teacher will call on a few students to share their descriptions of food and ask follow up questions based on their description.

**Review Familiar Skills (3 mins):**

- Students should wash hands for a minimum of 20 seconds with soap and by rubbing both hands together under the water.
- When serving food samples from bowl, students should use the provided spoon or tongs and not pick up or touch any food that might be eaten by another student.
- When participating in the taste test, students should close their eyes and try to focus solely on the food atop their tongue.

**Demonstrate New Skills (4 mins):**

Demonstrate how to properly use tongs to pick up food from a bowl and place it onto a plate.

- *Five Major Senses*: touch, taste, smell, sight, feel
- *Sensory*: the collection of information from your senses that the brain uses to perceive the world around us.
- *Taste Buds*: nerve endings on the tongue that provide the sense of taste.
- *Receptors*: an organ or cell able to respond to light, heat, or other external stimulus and transmit a signal to a sensory nerve.

**Divvy Up Tasks (3 mins):**

Assign separate students within each table group to hand out plates, forks, napkins, and to bring the bowls of sample foods to the table.

Explain that students should take a sample of predetermined size (i.e. one piece lime, two tortilla chips) and pass the bowl to the next student. Multiple bowls can make their way around the table in the interest of time.

**Cook (15 mins):**

Students should sample the four foods (lime, pineapple, tortilla chips, and arugula) in the order that the teacher announces them. Students should pause and reflect on each sample before moving on. Teacher may choose to ask questions about the foods after each tasting or to hold off on receiving student feedback until the end of the tasting.

After students have closed their eyes and focused on the sample food they are tasting students can place any remaining part of the sample on their plate. Students can record their thoughts about the sample in their journal or on a taste test sheet. Students should record which of the major tastes they thought were most prevalent within the food. Students should record whether this flavor profile was what they expected prior to trying the food.

Explain to students that it is okay if they felt that the food had more than one major flavor, such as sour and bitter.

If students finish this before the class is ready to move on, they can write any other observations of the food that are sensory based, such as the texture or mouth feel of the food, what the food smelled like, and what it looked like.

**Enjoy (5 mins):**

Students will be given time to speak with each other at their tables about how they felt the samples tasted. Students can brainstorm other foods that exhibit the 4 major flavors and think of prepared dishes that may taste like more than one of the major tastes (i.e. a chocolate snack that is sweet and salty, or a stir fry sauce that is sweet and sour.)

**Clean Up (10 mins):**

Students will be assigned to one of several jobs: Collect dishes and bring to the sink. Wash dishes and place in sanitizer. Remove dishes and dry with cloth. Place dishes on drying rack. Wipe down tables, chairs and other surfaces with towels and spray.

**Reflect (10 mins):**

Teacher will also ask for volunteers to share if they were surprised by the taste of one of the foods or if the taste they found prevalent was different than what is usually associated with the food (i.e. a lime that tastes sweet.)

## CONNECTIONS TO GARDEN LESSONS

Arugula for sampling can be harvested from garden. If the garden has lemon or lime trees they can provide the sour food sample.

Ask students what things in the garden they think might be easily identifiable with one of the major 4 tastes. What are things they might want to plant that are sweet, salty, bitter or sour?

Food waste from the taste test can be collected and brought to the garden for composting.

## POSSIBLE EXTENSIONS

**BAM! Box:** Work with your caregivers to find and record something in your regular diet that fits each of the taste sensations. Share in a future class.

## ADDITIONAL RESOURCES

[Our Sense of Taste](#)

## OTHER COMMENTS

Remember to have students describe future dishes made in future lessons using the major tastes and other sensory information.

Grade 3 • 45 mins

NEW!

GRADE 3

SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

- What is pesto?
- What is it traditionally made of?
- What other things can it be made of?

## MATERIALS

- Food processor
- Rubber spatulas
- Ingredients as found in this [Basil Pesto](#) recipe
  - If there are students who are allergic to nuts toasted sunflower seeds can be used in place of pine nuts.
  - If basil is out of season, or unavailable, try making the pesto with spinach, kale, or nasturtium leaves.
- Paper boats for serving
- Woven wheat crackers to dip in pesto. Alternatively, cooked pasta can be made to mix pesto into.

## Abc VOCABULARY

- Traditional—produced, done or used, in accordance with tradition.
- Tradition—a long established custom or belief that had been passed from one generation to another.  
(For culinary purposes this custom can be the inclusion of certain ingredients, the method of preparation, or both.)
- Variant—a form or version of something that differs in some respect from other forms of the same thing or from a standard.
- Substitute—to use or add in place of.

## PREPARATION (45 MINS)

Instructional Warm-up/Opening: Entry. Hand washing. Greetings.

Teacher asks if any students have prior knowledge or have tried pesto before. Teacher describes the ingredients of traditional pesto, followed by explanation of the many ways that pesto has been adapted (you can even make nasturtium pesto.)

## GUIDED PRACTICE

Teacher provides overview of lesson, explaining that students will use the food processor to process spinach, sunflowers seeds and other ingredients to make pesto. (Sunflower seeds are used since DJOD is a nut free campus.)

## TEACHER BACKGROUND

Pesto is typically a sauce made of fresh basil, garlic, oil, pine nuts, and grated cheese. We will be modifying the recipe to avoid pine nut allergens. Pesto originated in Genoa, the capital city of Liguria, Italy.

## LESSON DESCRIPTION

Pesto is easy to make at home! In this lesson, students will learn how to make homemade pesto using fresh ingredients and practice your skills using a flexible recipe.

## LEARNING OBJECTIVES

- Define traditional pesto as a sauce of crushed basil leaves, pine nuts, garlic, Parmesan cheese, and olive oil, typically served with pasta.
- Understand that many chefs have experimented with the concept of pesto over the years with many different ingredients such as cilantro, parsley, spinach, and substitutions for the pine nuts and parmesan.
- Identify pesto as a base concept of crushed leaves, and oily nut or seed, parmesan or nutritional yeast, garlic and olive oil.

**Content Learning Objectives***Culinary Flavors and Textures*

**CFT.3.4** Identify flavors, foods, and dishes from other cultures

**CFT.4.3** Assess main ingredients, seasonings and dishes of other cultures

**CFT.5.2** Explain food traditions of other cultures using sensory language to describe flavor and ingredients

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELALITERACY.L.3.1.G** Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.

## HEALTH STANDARD CONNECTIONS

**National Health Education Standard 4:** Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

**NOTE:**

Although pesto is high in fat, most of that fat is unsaturated. Fats from plants and nuts are believed to have heart health benefits. Besides adding fresh flavor, pesto has health benefits. Its ingredients are part of the heart-healthy Mediterranean diet. Plus, certain compounds in the ingredients may reduce your risk of heart disease, diabetes, and cancer.

*Lesson Sequence*

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**Prepare to Cook (5 min)**

Students will tie hair back if necessary and wash their hands.

**Recipe Introduction:**

Teacher asks if any students have prior knowledge or have tried pesto before. Teacher describes the ingredients of traditional pesto, followed by explanation of the many ways that pesto has been adapted (you can even make nasturtium pesto.)

**Review Familiar Skills:**

Remind students to always wash their hands properly before handling food. Kitchen equipment such as a food processor should be used with adult supervision. Safety always remains a top priority.

**Demonstrate New Tools and Skills:**

Traditional pesto is commonly made with basil, garlic, pine nuts, olive oil, salt, and parmesan cheese. Today, we will be flexible with our recipe by using alternative ingredients. Instead of pine nuts we will use sunflower seeds. Instead of cheese, some tables will use nutritional yeast. We look forward to trying different varieties.

**Divvy Up Tasks:**

Students will work in an assembly line to add ingredients to the food processor.

**Cook!**

Students add to food processor bowl: spinach, and pre-measured amounts of other ingredients. Students blend pesto in processor. If pesto is too dry they add more olive oil. If pesto is too wet more nutritional yeast or parmesan can be added. Students scrape out prepared pesto with rubber spatulas serve on paper boats with several crackers.

**Enjoy!**

Students enjoy a snack of pesto and crackers. Students describe the taste, and texture of the pesto. Students are asked how they think that the flavor would be changed by having different ingredients in the pesto, specifically greens that are more naturally spicy like mustard or nasturtium, or have a distinct flavor such as basil.

**Clean Up:**

Students throw away all trash and line up for dismissal.

**Reflect:**

Students share out whether they cared for the pesto using polite words.

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## CONNECTIONS TO THE GARDEN

Use basil from the garden. Use pesto as a dip for something ready to harvest from the garden, such as carrot sticks. Bring compost out to the garden.

Ask students to identify other green leaves that are growing in the garden that pesto could be made from, such as spinach, nasturtium leaves, mustard leaves, beet or broccoli greens or kale. Have students looking over a chart of planting and harvesting times for different greens and determine what types of pesto could be made from in season greens throughout different parts of the year.

## DIGGING DEEPER EXTENSIONS

Students can interview family members about their experiences with pesto, and what their favorite pesto dish is. Students can inquire with cafeteria staff as to the possibilities of adding a dish including pesto, such as pesto pasta, pesto pizza, or pesto bread to a lunch offered at the school.

## ADDITIONAL RESOURCES

Simple Spinach and Basil Sunflower Seed Pesto (Tree Nut Free)  
(Variant adapted by Jason Madden from the following two recipes:

- [Spinach and Sunflower Seed Pesto \(Vegan and Nut Free\)](#)
- [Emeril's Basil Pesto](#)

## INGREDIENTS

- 3 packed cups of spinach and fresh basil leaves (kale can also be substituted for spinach)
- 1 clove of garlic
- ½ cups sunflower seeds
- ¼ cup parmesan cheese
- ¼ tsp salt
- ⅛ tsp pepper
- ½ cup Olive Oil
- 1 ½ tablespoons Lemon Juice

## DIRECTIONS

In the bowl of a food processor or blender add the spinach, garlic, sunflower seeds, parmesan cheese, salt and pepper and pulse until well combined, but not totally smooth. Slowly drizzle in the olive oil while pulsing. Add lemon juice, salt and pepper to taste.

# SWEDISH CUCUMBER SALAD

Kitchen

Grade 3 • 45 mins • Fall

ADAPTED

GRADE 3

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

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## ? ESSENTIAL QUESTIONS

- What are the three rules of knife safety we learned last class?
- Why should we take all knives seriously and treat all knives with respect?
- What are two different basic cuts learned today?
- How do your hands look when in “Bear Claw” and in “Bridge?”

## Abc VOCABULARY

- Blade
- Focus
- Distraction
- De-seed

## ✓ ASSESSMENT

- **Cooking Observational Checklist**
- **Cleaning Observational Checklist**

## 🍲 MATERIALS

### Materials for Introduction

- Printed copies of recipe for [Swedish Cucumber Salad](#) from Emerils.com
- **Cooks Notes handout**

### Equipment

#### For Each Group of 10

- 10 Vegetable Peelers
- 5 Paring Knives
- 10 Cutting Boards
- 10 Melon Ballers or Spoons
- 2 Colanders
- 2 Large Non-Reactive Bowls
- 2 Whisks
- 2 Measuring Spoons Set
- 2 Liquid Measuring Cups

#### For Whole Class

- 30 Vegetable Peelers
- 15 Paring Knives
- 30 Cutting Boards
- 30 Melon Ballers or Spoons
- 6 Colanders
- 6 Large Non-Reactive Bowls
- 6 Whisks
- 6 Measuring Spoons Set
- 6 Liquid Measuring Cups

### NOTE:

Adapted from **Grade 3 Kitchen Lesson #4: Swedish Cucumber Salad**, pg. 309.

**Ingredients**

- Large cucumbers (1 per student)\*
- Salt
- White Vinegar
- Apple Cider Vinegar
- Sugar
- Fresh Dill\*

\* Denotes foods that could be found in the Garden.

**Materials for Enjoying the Food**

- Plates or bowls for finished salad
- Forks
- Napkins

**Materials for Cleaning Up**

Sink with dish soap and sponges available. Drying rack. Cloth towels. Cleaning Spray for surfaces. Materials for Enjoying the Food

## PREPARATION

*Setup for lesson introduction:* Print copies of recipes for each student. Print Cooks Notes handouts for each student. Write the 3 rules of knife safety on the board with key words from each rule removed and \_\_\_\_\_ in place of the words. *Setup for cooking:* All student cooking tools and materials (except knives) stacked on the end cap or cart at the end of the table for easy distribution. Cucumbers washed and ready to distribute. Ingredients for dressing on the table or end cap. *Setup for enjoying food:* Plates, forks, and napkins counted and stacked in an area of the kitchen classroom that is easily accessible to students. *Setup for cleaning:* 3 compartment sink filled with warm soapy water, clean warm water to rinse, and sanitizer. If 3 compartment sinks are not available, then available sinks are filled with warm soapy water. Sponges available on sides of sink. Folded cloth towels and spray bottles available in an area easily accessible for students.

## TEACHER BACKGROUND

While cooking can be a highly engaging and educational activity, it can also be dangerous. This is particularly true when using sharp knives, such as paring knives. Nonetheless, by effectively establishing procedures at the outset, such as a classroom set of “knife safety rules” that are demonstrated by the teacher, and sufficiently supervising students, students can safely use kitchen knives to participate in a wide variety of food preparation activities. We recommend allowing students to work in pairs using 1 knife between the two of them, or even 1 knife per 4 students if this is more in line with the teacher’s comfort level. This reduces the number of knives out in the classroom, and allows for easier supervision by the teacher. Another method is to designate one table as a “cutting station” where a limited number of students make cuts under the supervision of a teacher, and the other students work independently on a less dangerous aspect of the cooking lesson, like measuring seasoning or mixing a dressing.

## LESSON DESCRIPTION

Students will review and practice safe utilization of paring knives and vegetable peelers while peeling, de-seeding, and cutting cucumbers. After mixing the dressing listed in the recipe students will enjoy eating Swedish Cucumber Salad with their classmates.

## LEARNING OBJECTIVES

**Content Learning Objectives***Recipe Concepts*

**RC.3.2** Demonstrate knowledge of basic recipe techniques using kitchen tools and equipment.

*Kitchen Tools and Equipment***KTE.3.1-4** Kitchen Tools and Equipment.**Life Skills Learning Objectives***Community Life Skills***CLS.2** Students cooperate and communicate well with each other.

## ACADEMIC STANDARD CONNECTIONS

**NGSS Crosscutting Concept: Structure and Function**—All organisms have external parts...Plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.

## HEALTH STANDARD CONNECTIONS

**National Health Education Standard 7:** Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.*Lesson Sequence***Preparation to Cook (3 mins):**

Students should tie any long hair back with hair ties to avoid hair touching the cucumbers they are cutting or the dressing they are mixing. Students should wash hands thoroughly for twenty seconds or more at one of the handwashing stations within the classroom. Students should return to their seats.

**Recipe Introduction:**

- Show students an unpeeled cucumber. Ask students to visualize the inside of the cucumber underneath the peel. What is on the inside of the cucumber? What does the cucumber hold a lot of? Students should be able to identify seeds as being inside the cucumber and that cucumbers are vegetables that hold a lot of water.
- Ask students what happens to water filled vegetables like cucumbers or cabbage when salt is applied to them and they are placed in colander. Scaffolding may be required, but students and teacher together should come to the conclusion that water will be removed from the salted vegetable and drip through the colander into the bowl.
- Inquire whether any students have experience removing the water from vegetables for recipes such as cole slaw. Have students share.
- Ask students to share any experiences they have had making homemade salad dressing. What type of dressing was it? What were the ingredients?

**Review Familiar Skills:**

- Ask students to think back to the 3 rules of knife safety that they learned last class. Students can briefly discuss what they remember within their table groups.
- Call on individual students to complete the rules as listed on the board by identifying missing words, and to provide a brief summary of what the rule means in practice.
- Build upon student summaries so that whole class has a proper review of the 3 rules of Knife Safety:
  - Focus—there should be a direct line of sight from your eyes to what you are cutting. You are not talking, looking in a different direction, or allowing yourself to be DISTRACTED by anything else in the room. Your thoughts and attention should be solely centered on the cut you are making.
  - Knife on the cutting board, always—(A) When you are cutting food the food should always be on a cutting board large enough that the no part of the knife is touching another surface during the cut. (B) Anytime you are not making a cut your knife should be laying down on the cutting board. Anytime you feel DISTRACTED, or feel the need to stop cutting food, place the knife on the board until you are ready to cut again. Never hold or wave a knife around when talking. Avoid taking the knife from the table unnecessarily.
  - Use Bear Claw, and Bridge—To avoid cutting the tips of your fingers while using a sharp knife, rest the flat part of the knife’s BLADE against the flat front of your knuckles. This is commonly referred to as the Bear Claw. When making a long, lengthwise cut, grip the edges of the food you are cutting with your index finger and thumb in a wide curve (like a C on it’s side) and place the knife in the space between finger and thumb to cut. This is commonly referred to as the Bridge.
- On a cutting board that the whole class can see, make a small demonstration for each rule by making cuts on a peeled cucumber. Demonstrate using the Bridge cut to slice cucumber in half lengthwise, and the Bear Claw to protect tips of fingers while making slices on the halved cucumber.

**Demonstrate New Skills:**

- Introduce the vegetable peeler to class. Remind students that even if it seems harmless, a vegetable peeler can be dangerous if not used correctly. Students should peel with the blade moving away from their body, and use long slow strokes with moderate pressure to avoid cutting hands or fingers.
- Introduce the melon baller to class. Explain that part of the cooking activity today will involve DE-SEEDING the cucumber and then demonstrate using the melon baller to scoop the soft seeded center of the halved cucumber out, leaving the cucumber in a U shape. This can also be demonstrated by using a large spoon.

**Divvy Up Tasks:**

- Explain that students will be working in groups of two. Each student will have their own cucumber, cutting board, peeler and spoon or melon baller. Each pair of students will share one knife.
- Explain Rally Coach assignment. The student who isn't using the knife to make cuts is the Rally Coach for their partner. The Rally Coach is also intently focused on the cuts their partner is making. The Rally Coach provides polite, productive feedback to their partner in the moment, such as "curl your fingers into the Bear Claw" or "put the knife into the space between your finger or thumb." If the student cutting is adhering to the 3 rules of knife safety and doesn't require constructive feedback, then the Rally Coach can offer words of encouragement like "great job" or "you are really focused." Students will alternate turns making cuts with the knife and playing the role of the rally coach.
- After explaining Rally Coach and assigning partners, give each student an assignment to help prep the space for the cooking activity. Assignments can include: passing out cutting boards, passing out peelers, passing out spoons or melon ballers, passing out cucumbers, and putting compost buckets on tables. Only the Teacher should distribute knives.

**Cook:**

- Students use peeler in safe fashion to peel their cucumbers.
- Students place cucumber peels into compost container.
- Students take turns cutting their cucumbers in half lengthwise utilizing the Bridge cut. When it isn't their turn to use the knife students act as Rally Coach and provide feedback.
- Students use melon ballers or large spoons to remove seeds from cucumbers as demonstrated earlier.
- Students place seeds parts of cucumber into compost bucket.
- Students take turns cutting thin "half-moon" slices from their de-seeded cucumber halves utilizing their Bear Claw for safety. When it isn't their turn to use the knife students act as Rally Coach and provide feedback. During this time circulate and observe students' adherence to the 3 rules of knife safety while cutting. Record observations into the Cooking Observational Checklist.
- Students combine cut cucumbers into colanders on table. Salt is shaken over the cucumbers and the colander is placed in a larger bowl to collect water. Depending on schedule and time allotted students can place the colander and bowl into refrigerator overnight and finish recipe in next lesson. If this is not possible, then the cucumbers will drain while the students clear their tools and cutting boards, and work on creating the salad dressing.
- While the cucumbers drain, students follow recipe to create the salad dressing. Students will measure and combine both vinegars and sugar, then whisk until the sugar is completely dissolved.
- The cucumbers are transferred to a non-reactive bowl where they are tossed with the dressing and fresh dill (from the garden if possible.)

**Enjoy:**

- The salad is served onto the students' plates.
- Students enjoy their salad at their table with their classmates.
- Students are encouraged to try at least a small amount of the salad, even if they are unsure that they will care for it.

**Clean Up:**

- Assign each student a task to perform during clean up. Tasks should include: Collecting all silverware and dishes and walking them to the sink. Cleaning the dishes and silverware with soap and a sponge before placing them in the sanitizer. Removing dishes from sanitizer and drying with a dish towel before placing on the drying rack. Removing dried dishes from the drying rack and returning them to their designated places. Wiping down table tops and other surfaces with spray and cloth towel. Sweeping floors.
- During clean up observe students and assess their performance of their assigned task. Record observations into the Cleaning Observational Checklist.

**Reflect:**

- Students should fill out their Cooks Notes handout with feedback about the recipe, including whether they liked it, what they would change, and ways they could include local produce or produce from the garden.
- Call on a few students to share out their opinions.
- Collect the Cooks Notes sheets.

## CONNECTIONS TO GARDEN LESSONS

During this lesson, compare guidelines for safe knife use with guidelines for safe garden tool use.

## POSSIBLE EXTENSIONS

**Cafeteria:** Invite in your food service director to discuss and demonstrate knife safety.

**Community:** Invite in a local chef to demonstrate knife safety.

**Classroom:** Make the connection between structures and functions of the knife parts (i.e. an edge to cut, a handle to hold) with other examples of structure and function, such as structures of a seed or insect

## ADDITIONAL RESOURCES

- [There's A Chef In My World by Emeril Lagasse](#)
- If a television or smartboard is available in your classroom search for a video on basic knife cuts and correct knife grips on [Youtube.com](https://www.youtube.com) or another source.

## OTHER COMMENTS

Encourage students to relay the 3 rules of knife safety to caretaker or guardian at home and to practice knife cuts under the supervision of their caretaker or guardian.

## INGREDIENTS

- 2 cups fresh basil leaves
- ½ cup grated Parmesan cheese
- ⅓ cup pumpkin seeds or sunflower seeds
- 2 garlic cloves
- ½ cup extra virgin olive oil
- Juice of ½ lemon
- Pinch of salt + pepper to taste

NEW!

GRADES 3—5

SCHOOL PARTNER  
LESSON PLAN

## HOOK/INTRO (5 MINUTES)

- Begin by engaging the students with a discussion about different types of pasta dishes they may have tried or heard about.
- Show images or visuals representing Italy and pesto, and ask students if they can guess the connection between the two.
- Explain that pesto pasta is a popular dish in Italy and that today they will be learning how to make it themselves.

## DEMO/LESSON (5 MINUTES)

Share interesting facts about pesto and Italy, such as:

- Pesto originated in Genoa, Italy and is traditionally made with fresh basil, Parmesan cheese, pine nuts (or walnuts), garlic, and olive oil.
- The word “pesto” comes from the Italian word “pestare,” which means “to crush” or “to pound,” referring to the traditional method of making pesto using a mortar and pestle.
- Pesto is a versatile sauce that can be used not only for pasta but also as a spread, dip, or topping for various dishes.

## COOKING/INSTRUCTIONALLY EMBEDDED ASSESSMENT

- Instruct each group to measure and gather the ingredients required for the pesto sauce.
- Combine the basil leaves, grated Parmesan cheese, pumpkin seeds or sunflower seeds, and garlic cloves into the molcajete and grind.
- Add olive oil and mix.
- Add a pinch of salt and pepper to taste.

## ASSESSMENT/WRAP UP


**“I tried it and”**



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ADAPTED		GRADE 3						
Lesson # & Title	Topic	Content Learning Objective(s)	Suggested Lesson Activity	Life Skills Learning Objective(s)	Connections to Garden Lessons	Possible Extensions	Academic Standard Connections	Health Standard Connections
6. Cooking with What's in Abundance 	Home Economics (HE)	<p><b>HC.3.2</b> Demonstrate an understanding of local and seasonal foods.</p> <p><b>HE.3.3</b> Describe abundance and the causes of abundance in the garden</p> <p><b>KTE.3.1-4</b> Kitchen Tools and Equipment</p>	<p><b>Cooking Lesson:</b> Identify something in abundance in the garden. Have students define local and seasonal and discuss why this crop is in abundance (season, planting choices, etc.). Search for that crop on Emerils.com to find a recipe that uses it. Then work with students to harvest and prepare the recipe. If you have time to split this lesson across 2 sessions, have your students research and select the recipe themselves.</p>	<p><b>PLS.2</b> Students are able to express empathy and caring for themselves, others, and the environment.</p>	Start this lesson in the garden so that abundant produce drives recipe selection.	<p><b>BAM! Box:</b> Bring home a bag of produce that was in abundance in the school garden together with a recipe you found to use that produce. Prepare it together with your caregivers.</p>	<p><b>NGSS Science and Engineering Practice:</b> Asking Questions and Defining Problems</p> <p><u>See TEKS on following page.</u></p>	<p><b>National Health Education Standard 5:</b> Students will demonstrate the ability to use decision-making skills to enhance health.</p>

Note: This lesson was adapted to include Texas Essential Knowledge Skills and utilizes the recipe for **Emeril's Homemade Sweet and Spicy Pickles**, pg. 627.



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(E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operation

**Texas Essential Knowledge and Skills (TEKS) for Mathematics, Elementary, Revised 2022**

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**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

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(B) compare and contrast a variety of mixtures, including solutions

**5.5 Matter and energy.** The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:

(C) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water.

**Texas Essential Knowledge and Skills (TEKS) for Mathematics, Elementary, Revised 2022**

**5.3 Number and operations.** The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:

(L) divide whole numbers by unit fractions and unit fractions by whole numbers

# CUBAN BLACK BEANS AND STEAMED RICE

*Kitchen*

## HOOK/INTRO

NEW!

GRADES 3—5 | SCHOOL PARTNER  
LESSON PLAN

### Recipe exploration:

- Project recipe on screen, printed copies, cook books, cooking magazines
- Look at recipes from home (have extra in case they don't bring) or cookbooks mingle—compare and contrast OR look at flow of a recipe—how many people it serves, ingredients, procedure—and connect to math—if we have this many students, how much should we multiply, etc.; Make a recipe together.
  - What is step #1?
  - What measuring utensils needed?
  - What are the ingredients?
  - Serving size—How many people will this recipe feed?
  - What elements of math are you noticing in this recipe?

## DEMO/LESSON

- Introduce today's recipe: Cuban Black Beans & Steamed Rice.

## COOKING/INSTRUCTIONALLY EMBEDDED ASSESSMENT

- Every table group is in charge of an ingredient.
- Every table group adds it to the pot of beans at the front.

## CLEANING PROCEDURES

- 3 Bin System: Rinse, Wash, Sanitize, dry?
- Group job rotations—scrubbing dishes, rinsing dishes, sanitizing?, dry, sweep (4 students with brooms, 4 with dust bins), wiping down tables, collect compost, picking up scraps off the floor

## ASSESSMENT/WRAP UP

- Assessment Chart: Tried it, not my favorite; Liked it; Loved it!
- Share next week recipe

## FAST FINISHERS/EXTENSIONS

- Provide cookbooks, food magazines for students to flip through

### NOTE:

Have recipes printed, have cooking books out, share recipes kids might have brought out. Check in with teachers about what math they are/have learned.



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# FOOD MEMORIES AND PROCEDURES

*Kitchen*

## PREPARATION

- Set up seating chart with teacher
- Lay out nametags for students assigned spots

## FLOW

- Students come in and sit down at their spots
- 8 mins: Call for attention and review kitchen agreements
- Write Kitchen Agreements up to reference
- Ask students for examples—T-P-S?
- 15 mins: Food Memory
- Drawing
- Interviews: Interview Question Cards
- Make a food memory together throughout the spring!
- 5 mins: Handwashing
- 10 mins: Knife Skills
- 15 mins: Chop & Taste—toast
- 15 mins: Cleaning
- Assign student jobs (2 students/table/job)
- Maybe make each seat—a vegetable and each table a number
- “All broccolis are sweeping today”
- Reward to use dishwashing station in the back—must show responsibility
- 2 mins: Assessment

## HOMEWORK

Bring a recipe from home! Practice procedures & knife skills & cleaning—cutting jicama and cucumber with Tajin

## HOOK/INTRO

- Introduce students to the idea of sharing food memories by sharing a personal story of your own.
- Encourage students to draw their favorite food memory.
- Model a food memory interview for students.
- Pair students to share food memories with interview questions.
- Interview Question Cards
- Say: We’re going to be making a food memory today and for the next few weeks together. Before we do, let’s make sure to review our community agreements and knife skills.

### **NOTE:**

Adapted from **Grade 6 Kitchen Lesson #1: Welcome to the Kitchen**, pg. 538.

ADAPTED

GRADES 3—5

SCHOOL PARTNER  
LESSON PLAN



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## DEMO/LESSON

- Review Community Agreements
- Bear claw: Review bear claw. Give students a “quiz” where they tell you if you are doing it right or wrong. E.g. Bear claw but your thumb is sticking out.

## COOKING/INSTRUCTIONALLY EMBEDDED ASSESSMENT

- Cutting Jicama: Teacher peels the jicama ahead of time. Students: Cut in half. Cut into steaks. Cut into little rectangles.
- Cutting Cucumber: Peel some strips off (optional). Cut out circles.

## CLEANING PROCEDURES

- 3 Bin System: Rinse, Wash, Sanitize, dry?
- Group job rotations—scrubbing dishes, rinsing dishes, sanitizing?, \*needs policy for sharps\* drying dishes, sweep (4 students with brooms, 4 with dust bins), wiping down tables, collect compost, picking up scraps off the floor

## ASSESSMENT/WRAP UP

- Assessment Chart: Tried it, not my favorite; Liked it; Loved it!
- Share next week recipe (encourage students to bring recipe from home)



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## FLOW

Harvest & Taste Raw v. Cooked Kale Chips Recipe

Sequence Images

5 senses exploration—cooked v. raw

- Class Agreements
- Sequence
- Harvest
- Handwash
- Prep and Cook

## HOOK/INTRO (20 MIN)

Hold up a raw piece of kale and a kale chip. Ask “what do you notice?” ( I notice... I wonder... It reminds me of... Style of questions) Compare and contrast worksheet.

## DEMO/LESSON (15 MIN)

Tasting the kale chip, then asking “how do you think this was made?”

Sequencing—put real pictures of kale chips cooking in order

- Kale in the garden growing
- A bunch of kale harvested
- Washing kale—kale in a colander
- Drying drying rack
- Cooking sheet with olive oil
- In process—wilting kale
- Finished product—kale chips!! YUMM

## COOKING/INSTRUCTIONALLY EMBEDDED ASSESSMENT 20 MIN (5 MINUTE HARVEST, 15 WASHING, DRYING ETC.)

Harvest & dry kale together. Pause and walk through instructions to make kale chips for the next class.

## ASSESSMENT/WRAP UP

Write recipe card + add your own flavoring ideas.

## WORKSHEET IDEA

Sequencing from raw kale → kale chip (real pictures—to see transformation through cooking); also the compare and contrast.


NEW!

GRADES 3—5 | SCHOOL PARTNER  
LESSON PLAN



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3. Knife Cuts	Recipe Concepts (RC)  Kitchen Tools and Equipment (KTE)	<b>RC.5.2</b> Demonstrate knowledge of basic recipe techniques using kitchen tools and equipment.  <b>KTE.5.1-4</b> Kitchen Tools and Equipment	<b>Cooking Lesson:</b> Demonstrate how to cut a zucchini in half long-ways using a small chef’s knife. Hand out knives and have students practice on a zucchini of their own. Then have them put the flat surface of the zucchini down, and demonstrate each of the following knife cuts, giving students time to practice on a fraction of zucchini afterwards: cube, rough chop, fine chop, dice, and slice. Discuss when each cut might be important.   <b>Caution</b>	<b>PLS.1</b> Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.	Use zucchini from the garden. Bring compost out to the garden.	<b>Cafeteria:</b> Invite your food service director to discuss and demonstrate knife safety.	<b>NGSS Crosscutting Concept:</b> Structure and Function  <u>See TEKS on following page.</u>	<b>National Health Education Standard 7:</b> Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

Note: This lesson was adapted to include Texas Essential Knowledge Skills for Grades 3-5 and utilizes the recipe **Emeril’s Homemade Sweet and Spicy Pickles**, pg. 627.



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ADAPTED								
GRADES 3–5								
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11. Label Reading	Health Concepts (HC)	<b>HC.3.6</b> Read and interpret a food label	<b>Cooking Concept Lesson:</b> Ask students to bring 2 nutrition labels into class with them. Demonstrate how to identify the components of a nutrition food label. Have students explore, comparing and contrasting the labels from highly processed food items to those of minimally processed food items. Make sure you have extra nutrition food labels to use as examples in case students forget or there aren't enough minimally processed / whole food items represented. Have students elaborate, journaling about the difference between the labels, providing prompts.	<b>PLS.5</b> Students develop the ability to make informed and responsible decisions.	During this lesson, search the garden for growing sources of carbohydrates, such as grains, fruits and vegetables.	<b>Community:</b> Video a student-led tour of the bakery section of the grocery store, describing the different options available and the health benefits.	<b>CCSS.ELA-LITERACY.RI.3.9</b> Compare and contrast the most important points and key details presented in two texts on the same topic.  <u>See TEKS on following page.</u>	<b>National Health Education Standard 3:</b> Students will demonstrate the ability to access valid information, products, and services to enhance health.  <b>National Health Education Standard 5:</b> Students will demonstrate the ability to use decision-making skills to enhance health.

Note: This lesson was adapted to include Texas Essential Knowledge and Skills and utilizes the recipe **Maple-Buttery Corn Muffins**, pg 602.



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(L) divide whole numbers by unit fractions and unit fractions by whole numbers

# RECIPE MEASUREMENTS AND AGUA FRESCAS

*Kitchen*

*Lesson Sequence* \_\_\_\_\_

NEW!

GRADES 3—5

SCHOOL PARTNER  
LESSON PLAN

*Engage*

**Ignite Interest (5 minutes):**

- Hold up a Large mason jar full of water and a measuring cup.
- Ask students to estimate how many cups of water are inside and share out to the class.

*Explore*

**Stir Discoveries (10 minutes):**

- Give each table group a measuring set including: measuring cups and spoons of differing amounts, a cup of water and a tray to contain any spillages.
- Invite students to explore how many tablespoons fit into a cup, or how many teaspoons fill up a tablespoon...not every group will have the same measuring tools.
- If time allows, groups could trade measuring tools and continue to explore.

*Explain*

**Clarify New Ideas (5 minutes):**

- Students share out to the rest of the class about what they noticed when they were measuring with different cups/spoons.
- “When I was measuring water, I noticed that\_\_\_\_\_”

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## DEMO/LESSON: MAKING AGUA FRESCAS

- Provide ingredient options such as lemons, limes, cucumbers and mint. Students write their own recipe from a template.
- Incorporate measurements when designing recipe

## COOKING/INSTRUCTIONALLY EMBEDDED ASSESSMENT

- Students make their agua frescas in table groups in mason jars
- Sample each other’s recipes

## CLEANING PROCEDURES

- 3 Bin System: Rinse, Wash, Sanitize, dry?
- Group job rotations—scrubbing dishes, rinsing dishes, sanitizing?, dry, sweep (4 students with brooms, 4 with dust bins), wiping down tables, collect compost, picking up scraps off the floor

## ASSESSMENT/WRAP UP

- Assessment Chart: Tried it, not my favorite; Liked it; Loved it!

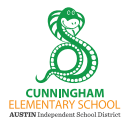


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12. Student Plays	Health Concepts (HC)	<b>HC.5.1</b> Summarize seed to plate process.	<b>Cooking Concept Lesson:</b> Have students elaborate on kitchen and garden learning to date by having them write short plays summarizing the process from growing to preparing to eating something this year. Evaluate their understanding of this process as they perform plays for a live audience (such as a younger class).	<b>CLS.2</b> Students cooperate and communicate well with each other.  <b>PLS.6</b> Students actively seek creative and resourceful solutions.	Perform the plays in the garden. Use real props from the garden, such as plants and tools.	<b>Community:</b> Invite community partners to come see the performances and learn more about the garden and kitchen program.	<b>CCSS.ELA-LITERACY.SL.5.4</b> Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.  <u>See TEKS on following page.</u>	<b>National Health Education Standard 4:</b> Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

Note: This lesson was adapted to include Texas Essential Knowledge Skills for Grades 3-5 and utilizes the recipe **Maple-Buttery Corn Muffins**, pg 602.



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ADAPTED		GRADES 3–5						
Lesson # & Title	Topic	Content Learning Objective(s)	Suggested Lesson Activity	Life Skills Learning Objective(s)	Connections to Garden Lessons	Possible Extensions	Academic Standard Connections	Health Standard Connections
<p>4. Sweet and Spicy Pickles</p> 	<p>Culinary Flavors and Textures (CFT)</p> <p>Food Preparation (FP)</p>	<p><b>CFT.4.2</b> Create basic flavor combinations using international cuisines.</p> <p><b>FP.4.2</b> Describe and perform food preservation processes such as drying, freezing, pickling.</p> <p><b>RC.4.2</b> Demonstrate the ability to follow recipe instructions with increased independence.</p> <p><b>KTE.4.1-4</b> Kitchen Tools and Equipment</p>	<p><b>Cooking Lesson:</b> Discuss the value of preserving seasonal foods that are in abundance in order to enjoy them year-round. Have students prepare <b>Emeril’s Homemade Sweet and Spicy Pickles, Emerils.com</b>. As students work, have them save and freeze onion and garlic peels for making vegetable stock in the winter. Demonstrate how to process the jars, focusing on food safety, and then demonstrate how to fill and process a jar of pickles before having them do the same in small groups. Follow the <a href="#">USDA’s Complete Guide to Home Canning</a> to preserve jam safely. Let pickles age at least 2 weeks before enjoying.</p>	<p><b>PLS.1</b> Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.</p>	<p>Use cucumbers, onions, and garlic from your garden. Bring compost out to the garden.</p>	<p><b>Community:</b> Make jars of pickles as gifts for loved ones.</p> <p><b>BAM! Box:</b> Bring home a jar of pickles and come up with a fun way to enjoy them, such as on crackers or sandwiches. Take photos and share your pickle ideas with the class.</p>	<p><b>CCSS.ELA-LITERACY.RI.4.3</b> Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.</p> <p><a href="#">See TEKS on following page.</a></p>	<p><b>National Health Education Standard 7:</b> Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.</p>

Note: This lesson was adapted to include Texas Essential Knowledge Skills for grades 3–5.



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**Texas Essential Knowledge and Skills (TEKS) for Science, Elementary, Revised 2022**

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(B) compare and contrast a variety of mixtures, including solutions

**5.5 Matter and energy.** The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:

(C) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water.

**Texas Essential Knowledge and Skills (TEKS) for Mathematics, Elementary, Revised 2022**

**5.3 Number and operations.** The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:







(L) divide whole numbers by unit fractions and unit fractions by whole numbers

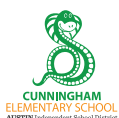
# EMPANADAS AND JAM

NEW!

GRADE 4

SCHOOL PARTNER  
LESSON PLAN

<b>Lesson Title: Empanadas and Jam</b>		
<b>Grade: 4</b>	<b>Lesson Number: 4</b>	
<b>Estimated Time:</b> 45 mins.	<b>Season:</b>  Fall	<b>Type:</b>  Cooking
<b> Teacher Background and Lesson Description:</b>		
<b>★ Lesson Objectives:</b> FP.4.3 Demonstrate ability to make simple recipes inspired by world cultures. CFT.4.1 Review basic sensory attributes of flavors KTE.4.4 Practice various tool techniques with increasing independence.		
<b> Academic Standard Connections:</b> Social Studies Cultural Traditions Social Studies Diversity and Community	<b> Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.	
<b>? Essential Questions:</b> How can we adapt recipes to make them easier to facilitate? How can we make fruit jam?		
<b> Vocabulary: empanadas, Latin America, Hispanic Heritage Month, jam</b>		



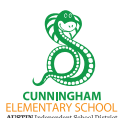
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<p><b>Materials:</b></p> <table border="1"> <tr> <td> <p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>• <i>Waiting for the Biblioburro</i> - Monica Brown</li> <li>• Discuss and share how the book was inspired by a librarian near La Gloria, Colombia who used a biblioburro to bring books to children</li> </ul> </td> <td> <p><b>Equipment:</b></p> <p><b>Empanadas</b></p> <ul style="list-style-type: none"> <li>• Empanada molds</li> <li>• 4 cans of refrigerated honey butter biscuits (5 count)</li> <li>• Forks</li> <li>• Pastry brush</li> </ul> <p><b>Berry jam:</b></p> <ul style="list-style-type: none"> <li>• Cutting boards and paring knife</li> <li>• Canning funnel</li> <li>• Jars for jam</li> <li>• Candy or instant-read thermometer</li> <li>• Oven mitts or pot holders</li> <li>• Juicer or reamer</li> <li>• Measuring cups</li> <li>• Grater or rasp</li> <li>• Pot</li> </ul> </td> <td> <p><b>Ingredients:</b></p> <p><b>Empanadas</b></p> <ul style="list-style-type: none"> <li>• 4 cans of refrigerated honey butter biscuits (5 count)</li> <li>• 2 eggs for egg wash</li> </ul> <p><b>Berry jam:</b></p> <ul style="list-style-type: none"> <li>• 4 pints fresh strawberries, halved</li> <li>• 5 cups of sugar</li> <li>• Juice and zest of one lemon</li> </ul> </td> </tr> </table>		<p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>• <i>Waiting for the Biblioburro</i> - Monica Brown</li> <li>• Discuss and share how the book was inspired by a librarian near La Gloria, Colombia who used a biblioburro to bring books to children</li> </ul>	<p><b>Equipment:</b></p> <p><b>Empanadas</b></p> <ul style="list-style-type: none"> <li>• Empanada molds</li> <li>• 4 cans of refrigerated honey butter biscuits (5 count)</li> <li>• Forks</li> <li>• Pastry brush</li> </ul> <p><b>Berry jam:</b></p> <ul style="list-style-type: none"> <li>• Cutting boards and paring knife</li> <li>• Canning funnel</li> <li>• Jars for jam</li> <li>• Candy or instant-read thermometer</li> <li>• Oven mitts or pot holders</li> <li>• Juicer or reamer</li> <li>• Measuring cups</li> <li>• Grater or rasp</li> <li>• Pot</li> </ul>	<p><b>Ingredients:</b></p> <p><b>Empanadas</b></p> <ul style="list-style-type: none"> <li>• 4 cans of refrigerated honey butter biscuits (5 count)</li> <li>• 2 eggs for egg wash</li> </ul> <p><b>Berry jam:</b></p> <ul style="list-style-type: none"> <li>• 4 pints fresh strawberries, halved</li> <li>• 5 cups of sugar</li> <li>• Juice and zest of one lemon</li> </ul>
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<p><b>Materials for Enjoying Food:</b></p> <ul style="list-style-type: none"> <li>• Plates &amp; forks</li> </ul>	<p><b>Materials for Cleaning Up:</b></p> <ul style="list-style-type: none"> <li>• Trash, recycling, and compost bins</li> </ul>			
<p><b>Assessment:</b></p> <p>Observations</p>				
<p><b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>• Open the biscuit containers and have them ready on plate for students to separate</li> <li>• Have empanada molds readily available</li> <li>• Have equipment ready to go for cooking lesson</li> </ul>				
<p><b>+ Additional Resources:</b></p> <ul style="list-style-type: none"> <li>• <i>Waiting for the Biblioburro</i></li> </ul>				

<p><b>Prep to Cook:</b></p> <ul style="list-style-type: none"> <li>• Have students tie hair back, wash hands (review steps if necessary), put on aprons (if relevant) and find their cooking station (these may be pre-assigned).</li> </ul>
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 **Recipe:**

- Empanadas:
  - Heat oven to 375°F. Lightly grease cookie sheet with shortening or cooking spray. Separate dough into 10 biscuits. Press or roll each to form 5-inch round. Place on cookie sheet.
  - Bake 10 to 14 minutes or until golden brown after filled with filling
- Jam:
  - 1. Combine the fruit, sugar, lemon juice and lemon zest in an 8-quart stock pot. Stir to dissolve and then bring to a boil over medium-high heat. Maintain at a full rolling boil until the jell point is reached, 220 degrees F. This may take a while—depending on your cooktop. Use your thermometer to make sure it comes up to the proper temperature. While the mixture cooks, stir it occasionally so the fruit does not stick to the bottom of the pan. You can test the jam by spooning a small amount onto a cold plate; if it has cooked long enough, a skin will form on the surface as it cools.
  - 2. Remove jam from the heat, skim off any impurities that have risen to the top.
  - 3. **(for leftover)** Using a canning funnel, ladle the fruit into the hot sterilized jars. Fill the jars, leaving 1-inch from the top of the jars for headroom, and wipe the rims well with a clean damp paper towel. 4. Seal the jars. They should pop and seal as they cool if they seal properly. (Any jars that do not seal properly should be refrigerated and used within several weeks.)

 **Review Familiar Skills:**

- Ask students what tools they have used so far in the kitchen (at school or at home) and write a list on a piece of chart paper in one color.
- Then ask students what other tools they can think of that chefs use and add that to the chart paper in a different color. If no one mentions knives, add knives to the list.

 **Enjoy:**

- Students may have to take empanadas back to their classroom to allow to cool down

 **Clean Up:**

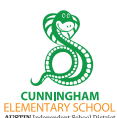
- Have a couple of students pick up dirty knives, cutting boards, and measuring cups from each table/ station and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.
- Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.
- Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.

 **Connections to Garden Lessons:**

Use fresh fruit from the garden. As students enjoy, trace ingredients back to their source. Bring compost out to garden.

 **Possible Extensions:**

Classroom: Read From Strawberry to Jam by Lisa Owings. Then create your own version of a "How to" Guide based on your own recipe. Community: Interview local restaurants on how their menu changes through the seasons.



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# FRENCH GREEN SALAD & TINY TOMATO TOASTS

*Kitchen*

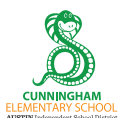
NEW!

GRADE 4

SCHOOL PARTNER  
LESSON PLAN

Lesson Title: French Green Salad & Tiny Tomato Toasts		
Grade: 4	Lesson Number: 6	
Estimated Time: 45 mins.	Season: 🍂 Fall	Type: 🔍 Cooking
<p> <b>Teacher Background and Lesson Description:</b> We'll be traveling to France and Italy as we get inspiration for our green salad and tiny tomato toasts for this lesson! Map the European countries and share the quick info located under materials.</p>		
<p>★ <b>Lesson Objectives:</b> FP.4.1 Demonstrate knowledge of how to wash and store fruits and vegetables. RC.4.2 Demonstrate the ability to follow recipe instructions with increased independence. KTE.4.1 Kitchen Tools and Equipment</p>		
<p> <b>Academic Standard Connections:</b> 4.1 Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (A) apply mathematics to problems arising in everyday life, society, and the workplace 4.3 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: A&amp;C: represent a fraction as a sum of fractions, (C) determine if two given fractions are equivalent using a variety of methods</p>	<p> <b>Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice healthenhancing behaviors and avoid or reduce health risks.</p>	
<p>? <b>Essential Questions:</b> What continent do France and Italy belong in? Why is it important to wash some fruits and vegetables?</p>		
<p> <b>Vocabulary:</b> Italy, country, France, whisking, strainer</p>		

**NOTE:** This lesson was creating using **Green Salad with French Dressing**, pg. 630.



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<p><b>Materials:</b></p>	
<p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>Revisit KWL chart</li> <li>France:                     <ul style="list-style-type: none"> <li>Official language: French</li> <li>Capital: Paris</li> <li>Currency: Euro</li> <li>Official name: French Republic</li> <li>Population: 67,364,357</li> </ul> </li> <li>Italy:                     <ul style="list-style-type: none"> <li>Official language: Italian Republic</li> <li>Capital: Rome</li> <li>Currency: Euro</li> <li>Official name: Italian Republic</li> <li>Population: 62,246,674</li> </ul> </li> </ul>	<p><b>Equipment:</b></p> <p><i>Green Salad &amp; French Dressing:</i></p> <ul style="list-style-type: none"> <li>Measuring cups and spoons</li> <li>Medium nonreactive mixing bowl</li> <li>Paring knives</li> <li>Salad tongs or wooden spoons for tossing salad</li> <li>Whisk</li> <li>Large salad bowl</li> <li>strainer</li> </ul> <p><i>Tiny Tomato Toasts:</i></p> <ul style="list-style-type: none"> <li>Paring knives</li> <li>Cutting board</li> <li>Bowl (large and small)</li> <li>Pastry brush</li> <li>Baking tray</li> <li>Large spoon to scoop</li> </ul>
<p><b>Ingredients:</b></p> <p><i>Green Salad w/ French Dressing (8-10 servings)</i></p> <ul style="list-style-type: none"> <li>¼ cup red wine vinegar</li> <li>¼ cup lemon juice</li> <li>2 teaspoons Dijon mustard</li> <li>2 teaspoons paprika</li> <li>1 cup olive oil</li> <li>12 cups mixed salad greens or spring mix</li> <li>1 small red onion, to slice</li> <li>2 to 3 medium tomatoes, cored and cut into wedges</li> <li>2 cups croutons, for garnish</li> </ul> <p><i>Tiny Tomato Toasts: (about 2 dozen)</i></p> <ul style="list-style-type: none"> <li>12 cherry tomatoes</li> <li>1 clove garlic, crushed</li> <li>3 tablespoons olive oil</li> <li>1 teaspoon balsamic vinegar</li> <li>6 basil leaves</li> <li>Salt and pepper</li> <li>1 baguette</li> <li>Sea salt</li> <li>Freshly ground black pepper</li> </ul>	
<p><b>Materials for Enjoying Food:</b></p> <ul style="list-style-type: none"> <li>Plates or cups for snack</li> </ul>	<p><b>Materials for Cleaning Up:</b></p> <ul style="list-style-type: none"> <li>Trash, recycling, and compost bins</li> </ul>
<p><b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>Pre-cut baguettes, lay out the ingredients and preheat oven to 350 degrees</li> </ul>	
<p><b>Additional Resources:</b></p> <ul style="list-style-type: none"> <li>Converting equivalent fractions:                     <ul style="list-style-type: none"> <li>Lay out recipe measurements and have students generate equivalent fractions for olive oil, vinegar, lemon juice etc.</li> </ul> </li> <li>Have students find the difference between the population of the countries.</li> </ul>	



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 Prep to Cook:

- Have students wash hands and put their hair up.
- Explain the reasoning we wash vegetables, fruits and greens is because of the soil the resides in the fruits as well as when they are displayed in the grocery store, many people put them back.
- Lay out ingredients along with measurement spoons, cups, and cutting boards.
- Split students up into groups for each recipe: cutting and measuring, mixers,

 Recipe:

- Before students begin cutting the tomatoes, assign some vegetable/fruit washers within the groups.
- Green Salad with French Dressing:
  - Students chop up the tomatoes into small wedges and can do a rough chop of the greens & measure out the wet ingredients. Students can chop up onions if they are ready for that.
  - Make the dressing by whisking together the vinegar, lemon juice, Dijon mustard and paprika until well blended. Slowly whisk in olive oil until emulsified.
  - To make the salad, combine the greens, sliced red onion and tomato wedges into a large wooden salad bowl, and drizzle with enough of the dressing to lightly coat the salad. Top with croutons and serve.
- Tiny Tomato Toasts:
  - Tomato topping:
    - Cut the tomatoes into quarters and put them in a bowl.
    - Add garlic, 1 tablespoon of olive oil, balsamic vinegar, and chopped basil. Stir well, then add salt and pepper to taste. Set aside.
  - Arrange pre-cut baguette into ½ -inch slices on baking sheet. Measure the remaining 2 tablespoons of olive oil into a small bowl. Add a pinch of salt. Paint the oil on the bread on both sides with a pastry brush.
  - Bake until the bread is lightly toasted (350 degrees), about 7 minutes per side. Use tongs to turn the bread over once during baking.
  - Take toasts out and have students spoon the topping onto each toasts just before serving.




Possible challenge: challenge students to use other spoons and find equivalent fractions for measurements given (ex:  $\frac{1}{4} = \underline{\quad}$  eights of a cup)

 Review Familiar Skills:

- Review how to handle a paring knife and review safety precautions with students.
- Review to double check they use the correct measuring spoons and cups to ensure deliciousness.

 Enjoy:

- Have plates ready for students, remind students to not wreck someone's yum!

<p> <b>Clean Up:</b></p> <ul style="list-style-type: none"> <li>• Have a couple of students pick up dirty knives, cutting boards, and measuring cups from each table/ station and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.</li> <li>• Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.</li> <li>• Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.</li> </ul>	
<p> <b>Connections to Garden Lessons:</b></p> <p>Use lettuce from the garden. Add in other produce growing in the garden. Garnish with herbs and/or edible flowers growing in the garden. Bring compost out to the garden.</p>	<p> <b>Possible Extensions:</b></p> <p>Connection: Students do a quick-write of the similarities between French and Italian cuisine.</p> <p>Students find how many cups and teaspoons are needed to make __ amount of servings.</p>

Tiny tomato toasts:



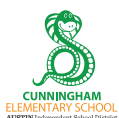


Lesson Title: Fried Rice (3-4 servings)		
Grade: 4	Lesson Number: 12	
Estimated Time: 45 mins.	Season:  Winter	Type:  Cooking
<p> <b>Teacher Background and Lesson Description:</b> Fried rice is a popular part of Eastern and Southeast Asian cuisines. As a homemade dish, it's typically made with ingredients left over from other meals, which means there are countless variations. Fried rice is thought to have originated in the city of Yangzhou in the eastern province of China.</p>		
<p> <b>Lesson Objectives:</b> CFT.4.2 Create basic flavor combinations using international cuisines. CFT.4.3 Assess main ingredients, seasonings and dishes of other cultures.</p>		
<p> <b>Academic Standard Connections:</b> 4.1 Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: (A) apply mathematics to problems arising in everyday life, society, and the workplace 4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: (F) compare and order decimals using concrete and visual models to the hundredths; 4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: (D) use strategies and algorithms including standard algorithm to multiply up to a four-digit number (F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor</p>		<p> <b>Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.</p>











<p><b>? Essential Questions:</b> How have people used food leftovers to create a tasty dish?</p>				
<p><b>abc Vocabulary:</b> Chine, fried rice, cuisines, leftovers, wok</p>				
<p><b>🍴 Materials:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; vertical-align: top;"> <p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>● China                             <ul style="list-style-type: none"> <li>● Official Name: People’s Republic of china</li> <li>● Official language: Standard Chinese and Mandarin</li> <li>● Capital: Beijing</li> <li>● Currency: Yuan (~0.14 USD)</li> <li>● Fun facts:                                     <ul style="list-style-type: none"> <li>● One third of China’s land area is made up of mountains.</li> <li>● Mount Everest sits on the border between China and Nepal</li> </ul> </li> </ul> </li> </ul> </td> <td style="width: 33%; vertical-align: top;"> <p><b>Equipment:</b></p> <ul style="list-style-type: none"> <li>● Knife</li> <li>● Chopping board</li> <li>● Frying pan or a wok</li> <li>● Spatula</li> <li>● plate</li> </ul> </td> <td style="width: 33%; vertical-align: top;"> <p><b>Ingredients:</b></p> <p>2 medium carrots                  2 spring onions                  3 tablespoons butter                  2 eggs (one serving can be made without it in case of allergies)                  2 tablespoons frozen green peas                  One medium bowl of cooked rice                  2 tablespoons soy sauce</p> </td> </tr> </table>		<p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>● China                             <ul style="list-style-type: none"> <li>● Official Name: People’s Republic of china</li> <li>● Official language: Standard Chinese and Mandarin</li> <li>● Capital: Beijing</li> <li>● Currency: Yuan (~0.14 USD)</li> <li>● Fun facts:                                     <ul style="list-style-type: none"> <li>● One third of China’s land area is made up of mountains.</li> <li>● Mount Everest sits on the border between China and Nepal</li> </ul> </li> </ul> </li> </ul>	<p><b>Equipment:</b></p> <ul style="list-style-type: none"> <li>● Knife</li> <li>● Chopping board</li> <li>● Frying pan or a wok</li> <li>● Spatula</li> <li>● plate</li> </ul>	<p><b>Ingredients:</b></p> <p>2 medium carrots                  2 spring onions                  3 tablespoons butter                  2 eggs (one serving can be made without it in case of allergies)                  2 tablespoons frozen green peas                  One medium bowl of cooked rice                  2 tablespoons soy sauce</p>
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<p><b>🕒 Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>● Have ingredients set up for groups to get started</li> </ul>				
<p><b>+ Additional Resources:</b></p> <ul style="list-style-type: none"> <li>● Math connection:                             <ul style="list-style-type: none"> <li>○ Converting Yuan to USD                                     <ul style="list-style-type: none"> <li>■ ___ Yuan = ___ USD</li> <li>■ Convert to Yuan: 5, 10, 842, 5,928,</li> </ul> </li> </ul> </li> </ul>				



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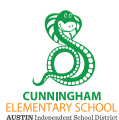
<p> Prep to Cook:</p> <ul style="list-style-type: none"> <li>• Have students sanitize and put hair up.</li> <li>• Review expectations for cutting.</li> </ul>
<p> Recipe:</p> <ul style="list-style-type: none"> <li>• Have students chop the carrots into small cubes and slice the spring onions</li> <li>• In pan, with adult supervision, place over medium heat, add a tablespoon of butter and let it melt. Add the eggs and scramble them until they are fully cooked, then put them on a side plate.</li> <li>• Let the rest of the butter melt in the same pan. Add the carrots, spring onions, and peas. Cook for 5-6 minutes, until vegetables are a bit softer.</li> <li>• Add the rice and eggs and mix everything together with the spatula.</li> <li>• Cook for 2-3 minutes, add the soy sauce and cook for another 2 minutes and serve.</li> </ul>
<p> Review Familiar Skills:</p> <ul style="list-style-type: none"> <li>• Ask students what tools they have used so far in the kitchen (at school or at home) and write a list on a piece of chart paper in one color.</li> </ul>
<p> Enjoy:</p> <ul style="list-style-type: none"> <li>• Enjoy a spoon of fried rice. Please be cautious of those who have egg allergies.</li> </ul>
<p> Clean Up:</p> <ul style="list-style-type: none"> <li>• Have a couple of students pick up dirty knives, cutting boards, and measuring cups from each table/ station and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.</li> <li>• Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.</li> <li>• Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.</li> </ul>
<p> Connections to Garden Lessons:</p> <p>Use herbs from garden and take the compost pile.</p>

# GERMAN APPLE PANCAKE



<p>Lesson Title: German Apple Pancake* (contains dairy and egg)                  4 servings (1 large pancake)                  Two recipes = 2 large pancakes would feed about 10 kids</p>		
Grade: 4	Lesson Number: 5	
Estimated Time: 45 mins.	Season: 🍂 Fall	Type: 🔍 Cooking
<p> <b>Teacher Background and Lesson Description:</b>                  **this recipe contains eggs and dairy: in case of allergies, eggs can be substituted with unsweetened apple sauce (1/4 cup = 1 egg) or plant-based egg (JUST Egg), milk can be substituted with almond or oatmilk at all times, 1 cup of butter is equivalent to one cup of shortening or pumpkin puree</p> <p>This super-huge pancake is fit for a royal! It's made from a simple batter that is poured over the sautéed apples and then baked for a puffy treat you eat hot from the oven. It is traditionally eaten with confectioners' sugar, but kick yours up with maple syrup, if you like! The Germans call this "appelfannkuchen."</p>		
<p>★ <b>Lesson Objectives:</b>                  CLS.5 Students participate in the development of agreed upon protocols and behaviors for the garden and kitchen environments.                  CFT.4.2 Create basic flavor combinations using international cuisines.                  KTE.4.1-4 Kitchen Tools and Equipment</p>		
<p> <b>Academic Standard Connections:</b>                  CCSS.ELALITERACY.SL.4.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly</p>	<p> <b>Health Standard Connections:</b>                  National Health Education Standard 7: Students will demonstrate the ability to practice healthenhancing behaviors and avoid or reduce health risks.</p>	
<p>? <b>Essential Questions:</b>                  What are traditional foods?                  Where is Germany located and what stories do we know come from Germany?</p>		
<p> <b>Vocabulary:</b> Germany, appelfannkuchen (apple pancake), pancake, whisk, food substitutes,</p>		

**NOTE:**  
 This lesson was created using **German Apple Pancakes**, pg. 624.



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<p><b>Materials:</b></p>	
<p><b>Lesson Introduction:</b></p> <ul style="list-style-type: none"> <li>Germany             <ul style="list-style-type: none"> <li>Locate on map</li> <li>Share that Hansel &amp; Gretel, Sleeping Beauty and Little Red Riding Hood are famous tales from Germany</li> </ul> </li> <li>Official language: German</li> <li>Capital: Berlin</li> <li>Currency: Euro</li> <li>KWL chart to be revisited at end of lesson if time permitted</li> <li>Fun facts:             <ul style="list-style-type: none"> <li>The largest train station in Europe is in Berlin, Germany</li> <li>German is the third most widely taught language in the world</li> <li>There are more than 20,000 castles in Germany</li> </ul> </li> </ul>	<p><b>Equipment:</b></p> <ul style="list-style-type: none"> <li>Measuring cups and spoons</li> <li>Paring knife</li> <li>Apple corer (or pre-sliced apples)</li> <li>Whisk</li> <li>Wooden spoon</li> <li>Heavy ovenproof 12-inch skillet</li> <li>Cutting board</li> <li>Vegetable peeler</li> <li>Large mixing bowl</li> <li>Sifter</li> <li>Oven mitts or pot holders</li> </ul>
<p><b>Ingredients:</b></p> <ul style="list-style-type: none"> <li>4 large eggs, lightly beaten*</li> <li>1 cup whole milk*</li> <li>1 cup all-purpose flour (gluten free can be an option)</li> <li>½ teaspoon vanilla extract</li> <li>3 tablespoons unsalted butter*</li> <li>2 large apples, peeled, cored, and thinly sliced</li> <li>⅛ teaspoon ground nutmeg</li> <li>Pinch of salt</li> <li>⅓ cup packed light brown sugar</li> <li>Confectioners' sugar</li> <li>Maple syrup (optional)</li> </ul> <p><small>*see dairy note under teacher background</small></p>	
<p><b>Materials for Enjoying Food:</b></p> <ul style="list-style-type: none"> <li>Plates and silverware for class</li> </ul>	<p><b>Materials for Cleaning Up:</b></p> <ul style="list-style-type: none"> <li>Trash, recycling, and compost bins</li> <li>Dishwashing stations and equipment</li> </ul>
<p><b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>Have world map out or globe and have samples or books of Red Riding Hood, Hansel &amp; Gretel, Sleeping Beauty</li> </ul>	



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**+ Additional Resources:**

- [Germany NewsELA](#)
- Childrens book about Germany
- Storyteller (have students act out) - Hansel and Gretel
- Storyteller - Red riding Hood
- Red Riding Hood - have books available

**🥬 Prep to Cook:**

- Have students wash hands and put hair up.
- Preheat oven to 450 degrees F
- Have 12 inch skillet out (one skillet = 1 pancake)
- Have mixing bowls prepared

**📖 Recipe: [Recipe link](#)**

1. In a large mixing bowl, combine the beaten eggs, milk, flour, and vanilla, and whisk until just blended, being careful to not overmix. Set the batter aside to rest at least 20 minutes.
2. Position rack in center of oven
3. In a heavy ovenproof 12-inch skillet, melt 2 tablespoons of the butter over high heat. Add the apples, cinnamon, nutmeg, and salt and cook, stirring frequently, until the apples are soft and lightly golden around the edges, about 6 minutes.
4. Add the brown sugar and cook, stirring, until the apples are caramelized and very soft, 2 to 3 minutes longer. Add the remaining tablespoon of butter and stir to melt.
5. Working very quickly, pour the batter evenly over the top of the apples. Using oven mitts or pot holders, transfer the skillet to the oven and bake until the pancake is golden brown and puffed, about 15 minutes. Don't be alarmed when you see the edges of the pancake puff up over the top of the pan—this is supposed to happen!
6. Using oven mitts or pot holders, remove the skillet from the oven and serve the pancake immediately, sprinkled with sifted confectioners' sugar or drizzled with maple syrup, as desired.

**✦ Review Familiar Skills:**

- Ask students what tools they have used so far in the kitchen (at school or at home) and write a list on a piece of chart paper in one color.
- Then ask students what other tools they can think of that chefs use and add that to the chart paper in a different color.

<p>😊 Enjoy:</p> <ul style="list-style-type: none"> <li>• Two recipes (2 large pancakes) would be plenty for 10 kids to taste</li> <li>• Recommend making one allergy-friendly pancake</li> </ul>	
<p>🧺 Clean Up:</p> <ul style="list-style-type: none"> <li>• Have a couple of students pick up dirty knives, cutting boards, and measuring cups from each table/ station and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.</li> <li>• Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.</li> <li>• Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.</li> </ul>	
<p>🌱 Connections to Garden Lessons: Use fresh fruit from the garden. As students enjoy, trace ingredients back to their source. Bring compost out to garden.</p>	<p>📝 Possible Extensions: Students write their own version of red riding hood to fit Texan culture</p>



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## Countries Of The World: Germany

By National Geographic Partners, adapted by Newsela staff on 04.02.18

Word Count **628**

Level **530L**



Neuschwanstein Castle is located in southern Germany in the state of Bavaria. It was commissioned by Ludwig II, the King of Bavaria, in the late 1800s. The castle was not completed when he passed away in 1886. Photo from: Pixabay.

Germany is a country in Europe. The region has many interesting landscapes. Mountains and hills rise in the center and south of the country. River valleys cut through these areas. In the north, the land flattens into a wide plain. Germany's coastline is on the North Sea.

### Nature

Germans take pride in protecting their natural areas. Their country has almost 100 nature reserves. The Black Forest is the largest of them. Germany also does a lot to protect its wildlife.

Two areas of Germany are especially unspoiled. The northern coast is home to much sea life. Birds wade along its shores. In

Source credit: [Newsela, Countries of the World](#)



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the south, big mammals wander in the forests. They include wildcats, boar and ibex, a kind of wild goat.

**People And Culture**

About 1 in 10 people in Germany comes from a foreign country. The Turkish people are the country's largest minority group. Turkish people come from the country of Turkey.

The arts are very important in Germany. The country has a tradition of talented artists. It has been called the "Land of Poets and Thinkers." Their contributions to music are well known. Great German composers include Bach and Beethoven.

**Government And Economy**

Germany is a parliamentary democracy. A parliament is a group of lawmakers. In Germany, the parliament has two houses: the Bundesrat and Bundestag. Its members vote to pass laws. The leader of the government is called the chancellor.

Today, Germany belongs to the European Union. The EU is a group of 28 countries in Europe. They work together on problems involving money. Germany has become a leading member of the EU.

**History**

Germany has a long history. The first people to move into northern Europe arrived about 10,000 years ago. People who spoke an early form of German came later. They arrived about 5,000 years ago.

Early Germany was a patchwork of small states. They were ruled by dukes and kings. In 1871, though, these states were unified. They became one connected state. Otto von Bismarck is considered the father of Germany. He led efforts to create the new nation.

In the late 19th century, Germany wanted more influence in Europe. It also wanted to set up colonies in Africa and Asia. It took land on these continents to make those colonies.

Other countries in Europe were not happy with Germany. Its actions led to disagreements and anger. Eventually, this led to World War I. This big global conflict began in 1914. It lasted four years. Millions of people died in the war. In the end, Germany lost. The war ended in 1918. That was 100 years ago.

In 1933, a man named Adolf Hitler rose to power in Germany. He was the leader of the Nazi Party. In 1939, the Nazis invaded Poland. This attack started World War II.

During the war, Nazis tried to destroy the Jewish people. They built prison camps during the war. Millions of Jewish people were murdered in these camps.



Image 1. Map 1: mapchart.net/Newsela staff.



Image 2. Newsela staff.

Source credit: [Newsela, Countries of the World](#)



The war ended in 1945. Germany was defeated. The United States, United Kingdom and other countries on their side had won the war.

After World War II, Germany was divided into two parts. One was West Germany. The other was East Germany. The country became part of a struggle between the Soviet Union and Western powers. The Soviet Union was a group of countries led by Russia. The Western powers included the United States and the United Kingdom. This conflict was called the Cold War. It lasted 44 years. In 1989, East and West Germany were reunited. The Cold War came to an end soon after.



Image 3. Map 2: mapchart.net/Newsela staff. Note: The country of Russia spans two continents: Europe and Asia.

Source credit: [Newsela](https://www.newsela.com), [Countries of the World](https://www.countriesoftheworld.com)



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# GETTING STARTED WITH PARING KNIVES

ADAPTED

GRADE 4

SCHOOL PARTNER  
LESSON PLAN








Lesson Title: Getting Started with Paring Knives		
Grade: 4	Lesson Number: 2	
Estimated Time: 45 mins.	Season: 🍂 Fall	Type: 🍳 Cooking Concept
<p> <b>Teacher Background and Lesson Description:</b> While cooking can be a highly engaging and educational activity, it can also be dangerous. This is particularly true when using kitchen knives. Nonetheless, by effectively establishing procedures at the outset and sufficiently supervising students, students can safely use kitchen knives to participate in a wide variety of food preparation activities. When students are using knives, particularly for the first time, we recommend having them work in groups of 10 or fewer with 1 or more adults. You can do this by running a cutting station while other students work independently on a separate project, or by inviting other adult volunteers to supervise small groups.</p> <p>In this lesson, students will explore tools that are used for different tasks including those they have used in the garden and the kitchen. They will then learn about knives—their different parts and how they function as simple machines. Then, the techniques of “claw and slaw” and “low and slow” will be modeled by the teacher before the students utilize knives to slice fruits to make a fruit salad and eat as a snack.</p>		
<p>★ <b>Lesson Objectives:</b> RC.4.2 Demonstrate the ability to follow recipe instructions with increased independence. KTE.4.1. Use tools introduced in previous grades independently. KTE.4.2. Name, identify, locate, and safely use new tools. KTE.4.3. Demonstrate proper care and storage of tools/equipment.</p>		
<p> <b>Academic Standard Connections:</b> Structure and function of the kitchen</p>	<p> <b>Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks</p>	
<p>? <b>Essential Questions:</b> How are tools used to make tasks easier? How can we be mindful with our bodies and energy level to keep ourselves safe when using tools?</p>		

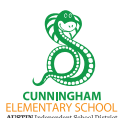
**NOTE:** Adapted from **Grade 3 Kitchen Lesson #3: Getting Started with Paring Knives**, pg. 516.



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 Vocabulary: Knife, Wedge, Tip, edge, handle, Slice (verb), slice (noun)			
 Materials:			
Lesson Introduction: <ul style="list-style-type: none"> <li>• <a href="#">The parts of a Kitchen Knife</a> *one per student</li> </ul>	<table border="1"> <tr> <td>                     Equipment:                     <ul style="list-style-type: none"> <li>• Cutting boards (1 per student)</li> <li>• Paring knives (1 per student)</li> <li>• Small bucket to hold clean knives (1 per cook station)</li> <li>• Small bucket to hold dirty knives (1 per cook station)</li> </ul> </td> <td>                     Ingredients:                     <ul style="list-style-type: none"> <li>• Watermelon</li> <li>• Pineapple</li> <li>• Cantaloupe</li> <li>• Grapes</li> <li>• Strawberries</li> </ul>                     *recommend buying pre-cut portions so that students can practice cutting fruits into smaller portions                 </td> </tr> </table>	Equipment: <ul style="list-style-type: none"> <li>• Cutting boards (1 per student)</li> <li>• Paring knives (1 per student)</li> <li>• Small bucket to hold clean knives (1 per cook station)</li> <li>• Small bucket to hold dirty knives (1 per cook station)</li> </ul>	Ingredients: <ul style="list-style-type: none"> <li>• Watermelon</li> <li>• Pineapple</li> <li>• Cantaloupe</li> <li>• Grapes</li> <li>• Strawberries</li> </ul> *recommend buying pre-cut portions so that students can practice cutting fruits into smaller portions
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Materials for Enjoying Food: <ul style="list-style-type: none"> <li>• Plates or cups for snack</li> <li>• Plastic forks</li> </ul>	Materials for Cleaning Up: <ul style="list-style-type: none"> <li>• Trash, recycling, and compost bins</li> <li>• Dish soap</li> <li>• Scrubber (for dishes)</li> <li>• Drying rack</li> <li>• Sponge or rag(for counters)</li> <li>• Broom and dustpan</li> </ul>		
 Assessment: Observational checklist			
 Teacher Prep: <ul style="list-style-type: none"> <li>• Gather materials, equipment, and ingredients listed above.</li> <li>• Distribute fruit across tables with labels (in case of student allergies)</li> </ul>			
 Additional Resources: <ul style="list-style-type: none"> <li>• The Tool Book - Gail gibbons, noticing tools that different professionals use to help them complete their tasks.</li> </ul>			
 Prepare to Cook: <i>Ignite Interest</i> <ul style="list-style-type: none"> <li>• Have students tie hair back, wash hands, put on aprons (if available) and go to their station.</li> </ul>			
 Recipe Introduction: (5 minutes) <ul style="list-style-type: none"> <li>• Our goal today will be to effectively and carefully use paring knives to create a scrumptious fruit salad. You have some pre-chooped fruits, to make a fruit salad, we will cut the fruit piece smaller.</li> <li>• Model how to carefully and safely pick up each fruit and make the cut.</li> </ul>			



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**Demonstrate New Tools and Skills: Clarify New Ideas**

- Explain that a knife is a useful tool in the kitchen for cutting. The knife itself is a wedge, which is a type of simple machine. When a wedge is placed on an object and force is applied, the wedge drives the object apart into two.
- 2. Reiterate to students that to use tools, it is important to understand how they work and how to use them safely, particularly if the tools are sharp and could be dangerous, like knives. Explain to students that using knives is a privilege, and if anyone is playing with them or not being safe, that privilege will be taken away in order to keep everyone safe.
- 3. Show students one of the knives that they will be using and draw a model of it on chart paper. Identify the parts (structures) and label on the model.
  - tip
  - edge
  - handle
- Explain that the only part of the knife that students will touch is the handle. It may be useful to wrap the handle in a certain color electrical tape as a visual cue





**Divvy up tasks: Watch It Rise**

- Make sure knives are out of reach of students while you introduce and discuss them. Demonstrate how to pick up and hold a knife properly, then return it to its “home base” (the cutting board). Model for students—does the knife go on the counter? on the floor? on your notebook? on a friend? on your lap? (No, only on the cutting board). The only other place it will go is in the cleaning bucket when students are completely finished with their task.
- Also, demonstrate how their other hand will be holding their fruit or vegetable like a “claw” with their fingers tucked. Students can remember these 2 cues by the phrase “claw and saw.” Another helpful phrase to encourage a safe motion with the knife is “low and slow.” Students may have seen cooking shows where chefs use a fast chop but remind students that in our class we will be using a “claw and saw” and will be doing it “low and slow.”
- Request that one student per each group of 10 retrieve cutting boards for all of the students at their table. When everyone has returned to their seats, deliver a bucket of knives to each table.
- Demonstrate for students how to slice their banana approximately every ½ inch. Introduce the vocabulary slice which is a specific way to cut something (can be used as either a verb or a noun to describe the result of this cut). On your cue, provide time for students to slice their fruits and then carefully place their knives in the bucket when they are finished.



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<p> Evaluate: Reflect</p> <ul style="list-style-type: none"> <li>As students are slicing their fruits, remember to use the cooking and cleaning observational checklist to assess students' mastery of cooking skills.</li> <li>Review with students:             <ul style="list-style-type: none"> <li>How are tools used to make tasks easier?</li> <li>How can we be mindful with our bodies and energy level to keep ourselves safe when using tools?</li> </ul> </li> </ul>	
<p> Clean Up:</p> <ul style="list-style-type: none"> <li>Provide students with time in their small groups to divide then execute tasks before returning their attention back to the whole group.</li> <li>As students work in their small groups, remember to use the cooking and cleaning observational checklist to assess students' mastery of cleaning skills.</li> </ul>	
<p> Connections to Garden Lessons: Compare guidelines for safe knife use with guidelines for safe garden tool use.</p>	<p> Possible Extensions:</p> <p>Cafeteria: Invite in your food service director to discuss and demonstrate knife safety.</p> <p>Community: Invite in a local chef to discuss and demonstrate knife safety.</p> <p>Classroom: Make the connection between structures and functions of the knife parts (i.e., an edge to cut, a handle to hold) with other examples of structure and function, such as structures of a seed or insect.</p>

# HUMMUS & PITA CHIPS

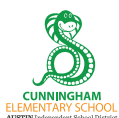
ADAPTED

GRADE 4

SCHOOL PARTNER  
LESSON PLAN

Lesson Title: Hummus & Pita Chips		
Grade: 4	Lesson Number: 8	
Estimated Time: 45 mins.	Season:  Winter	Type:  Cooking
<p> <b>Teacher Background and Lesson Description:</b> Hummus is popular throughout the Middle East and beyond. Though I don't usually advocate using canned beans or peas, chickpeas are one of the few exceptions, and especially for this use, they work just great. Just make sure to drain and rinse them well. I like to eat my hummus with pita chips—but it also goes great with bagel chips or fresh veggies. If you're a lemon lover like I am, you might want to squeeze a little extra lemon juice over the top of the hummus just before serving!</p>		
<p> <b>Lesson Objectives:</b> KTE.4.2. Name, identify, locate, and safely use new tools. KTE.4.4 Practice various tool techniques with increasing independence.</p>		
<p> <b>Academic Standard Connections:</b> 4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: (F) compare and order decimals using concrete and visual models to the hundredths 4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to: (G) represent fractions and decimals to the tenths or hundredths as distances from zero on a number line 4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to: (D) use strategies and algorithms to multiply up to a four digit number by a one-digit number</p>	<p> <b>Health Standard Connections:</b> National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.</p>	

**NOTE:** Adapted from **Grade K Kitchen Lesson #16: Mmmm-Hmmm Hummus**, pg 269.



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<p><b>? Essential Questions:</b> What is the connection between hummus and pita chips?</p>				
<p><b>abc Vocabulary:</b> Egypt, Syria, food processor, tahini, pita bread/chips</p>				
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<p><b>🕒 Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>● As students walk in, have them sanitize and get themselves ready to cook to allow time for the pita chips and hummus to cool.</li> <li>● Then go back and introduce the origins of hummus and pita chips.</li> </ul>				
<p><b>+ Additional Resources:</b></p> <ul style="list-style-type: none"> <li>● Math connection:                             <ul style="list-style-type: none"> <li>○ Have students compare the equivalency of USD dollars to the currency in both countries</li> <li>○ Have students calculate how many Syrian or Egyptian pound would equal 15, 48, 100 &amp; 382 dollars.</li> </ul> </li> </ul>				



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 Prep to Cook:

- Set oven to broil for pita chips.
- Wash hands and put hair up.
- Cutting boards and materials should be ready to go once students arrive to allow time for hummus to thicken in fridge and pita chips to cool.
- Introduce hummus and vegetables as a healthy, well rounded snack. Review how to use colanders, and then have students wash and scrub carrots, or other vegetables you'll be dipping in hummus.

 Recipe:

## Hummus:

- Drain the canned chickpeas, saving the liquid in a measuring cup or bowl.
- Peel the garlic clove and place it into a food processor. Process until finely minced.
- Add the chickpeas, salt, tahini, lemon juice, and oil to the food processor. Purée the mixture.
- Turn off the food processor and add 1 tablespoon of the reserved liquid from the chickpeas. Purée until the consistency is nice and creamy.
- You can add up to 2 more tablespoons of the chickpea liquid if you want your hummus extra creamy. The hummus will thicken in the fridge.
- Transfer the hummus into a bowl and can be drizzled with a bit of olive oil to serve with pita chips.


## Pita chips:

- Cut open each pita pocket with kitchen scissors.
- Place the pitas, one at a time, on a cutting board. Using a pizza wheel, cut into eight triangles (this can be divided into groups and take turns cutting).
- Lightly oil a baking sheet. Arrange the triangles in a single layer on the baking sheet.
- Mix the oil, garlic, and salt in a shallow bowl.
- Using a pastry brush, paint the oil mixture evenly over the pita triangles.
- Broil the pita chips for a minute or two, until they are light brown and crispy. Watch closely because they burn fast!

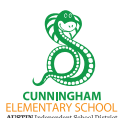
 Review Familiar Skills:

- Review knife and pizza wheel safety procedures.
- How to use a pastry brush



 Clean Up:

- Have a couple of students pick up dirty knives, cutting boards, and measuring cups from each table/ station and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.
- Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.
- Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.



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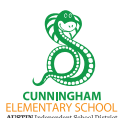
Lesson Title: Mango Lassi 2-3 servings **		
Grade: 4	Lesson Number: 11	
Estimated Time: 45 mins.	Season:  Winter	Type:  Cooking
<p> <b>Teacher Background and Lesson Description:</b>                  **contains dairy products: milk can be substituted for oat milk or almond milk, yogurt can be substituted with coconut milk</p> <p>This Nepalese style smoothie is popular throughout India and Nepal. Lassi yogurt drinks are cool and creamy. The earliest mentions of Lassi have been found in ancient Indian texts dating as far back as 1000 BC.</p>		
<p>★ <b>Lesson Objectives:</b>                  FP.4.2 Describe and perform food preservation processes such as drying, freezing, pickling.</p>		
<p> <b>Academic Standard Connections:</b>                  4.1 Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:                  (A) apply mathematics to problems arising in everyday life, society, and the workplace                  4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:                  (C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols &lt;, &gt;, =                  4.5 Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:                  (A) represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity</p>		<p> <b>Health Standard Connections:</b>                  National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.</p>



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<p><b>? Essential Questions:</b> When is it best to buy frozen or fresh fruits and vegetables?</p>				
<p><b>abc Vocabulary:</b> frozen, fruits, Nepal, lassi, abundance</p>				
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<p><b>🕒 Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>● Have stations prepared for students as they come in</li> <li>● Optional to have frozen vs fresh mangoes available for students to use (depending on the season)</li> <li>● Open up discussion of why we would choose frozen versus fresh mangoes in the recipe</li> </ul>				
<p><b>+ Additional Resources:</b></p> <ul style="list-style-type: none"> <li>● Math connection (4.1A, 4.5A &amp; 4.2C)                             <ul style="list-style-type: none"> <li>○ See practice on last page</li> </ul> </li> </ul>				



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 Prep to Cook:

- Have students wash hands and put hair up
- Have a station with alternative dairy products ready as well as a station with dairy
- Split students into groups and have them gather their ingredients.



## Recipe:

- Place the mango, yogurt, milk and sugar into blender
- Put on the lid and blend until nice and creamy, about a minute or two. Pour into cups. Sprinkle each cup with a pinch of cardamom, if student likes

 Review Familiar Skills:

- Ask students what tools they have used so far in the kitchen (at school or at home) and write a list on a piece of chart paper in one color.
- In thinking about seasons, a

 Enjoy:

- Students choose which smoothie option they want to try and enjoy!

 Clean Up:

- Have a couple of students pick up dirty knives, cutting boards, and measuring cups from each table/ station and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.
- Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.
- Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.

Name: \_\_\_\_\_

Tallest Mountain Peaks

Mountain	Height (ft)
Mt. Everest	29,035
K2	28,251
Kangchenjunga	28,169
Lhotse	27,940
Makalu	27,825

1) What is the combined height in feet of the five tallest mountains? Use a strip diagram to solve

2) What is the difference between the Mt. Everest and Makalu in feet?

2(a) What is difference between them in inches (in.)?

3) What is the difference in height between the second tallest mountain and the 4th tallest mountain?

4) Why is it best to sometimes purchase frozen fruits vs fresh? Give an example.



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<b>Lesson Title: S'mores (4 s'mores)</b>		
<b>Grade:</b> 4	<b>Lesson Number:</b> 14	
<b>Estimated Time:</b> 45 mins.	<b>Season:</b> Spring	<b>Type:</b> Cooking
<p> <b>Teacher Background and Lesson Description:</b>            For an all-american summer treat, melt some marshmallows and chocolate chips on top of a graham cracker in the toaster oven (or oven).</p> <p>The first published recipe for "some mores" appeared in a Girl Scouts handbook in 1927.</p>		
<p> <b>Lesson Objectives:</b>            KTE.4.1. Use tools introduced in previous grades independently.            KTE.4.2. Name, identify, locate, and safely use new tools.            KTE.4.3. Demonstrate proper care and storage of tools/equipment.</p>		
<p> <b>Academic Standard Connections:</b>            4.1 Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:            (A) apply mathematics to problems arising in everyday life, society, and the workplace</p>	<p> <b>Health Standard Connections:</b>            National Health Education Standard 7: Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.</p>	
<p> <b>Essential Questions:</b>            What is a cultural dessert in the United States?</p>		
<p> <b>Vocabulary:</b> cultural, United States, s'mores, adapt</p>		



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<p><b>Teacher Prep:</b></p> <ul style="list-style-type: none"> <li>Have materials ready for when students come in</li> </ul>				
<p><b>Additional Resources:</b></p> <ul style="list-style-type: none"> <li>Have students share “campfire” stories while they enjoy their s’mores</li> </ul>				
<p><b>Prep to Cook:</b></p> <ul style="list-style-type: none"> <li>Set up materials in stations</li> </ul>				
<p><b>Recipe:</b></p> <ul style="list-style-type: none"> <li>Place 2-4 marshmallows and chocolate chips on four of the graham cracker squares.</li> <li>Set the graham cracker squares on the toaster oven tray or a baking sheet.</li> <li>Toast until the marshmallows and chocolate chips melt. Watch them closely, since they can burn quickly!</li> <li>When the marshmallows are lightly toasted and the chocolate is gooey, they’re done!</li> <li>Remove from the toaster oven and top each s’more with a second graham cracker. Enjoy!</li> </ul>				



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**✦ Review Familiar Skills:**

- Ask students what tools they have used so far in the kitchen (at school or at home) and write a list on a piece of chart paper in one color.

**😊 Enjoy:**

- Enjoy the s'mores and ensure students wash hands after. If students choose not to eat a s'more, they can deliver it to a staff member in the office to limit waste.


**🧹 Clean Up:**

- Have a couple of students pick up dirty knives, cutting boards, and measuring cups from each table/ station and place them in the sink. Explain to students that the teacher/TA will clean them later, but we are taking a respectful approach.
- Have two more students wipe down counters, and two others use the broom and dustpan to make sure the floor is clean.
- Model the appropriate clean-up instructions (including collecting food scraps for the compost bucket) and have each student practice following the instructions as they finish eating.

**👤 Possible Extensions:**

Have students go home and come back with recipes for graham crackers.



Grade 5 • 110 mins • Fall, Winter, Spring 

NEW!

GRADE 5

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Noah Welsh • noah\_welsh@bcaemail.org

## ESSENTIAL QUESTIONS

- How do we know if something is a chemical or physical change

## VOCABULARY

- Chemical change
- Chemical reaction
- Physical change
- Atoms
- Molecules

## ASSESSMENT

Students will write a claim-evidence-reasoning response at the end of class where they explain whether a given phenomenon illustrated in a table is a chemical or physical change.

## • Observational Checklist



## MATERIALS

### Materials for Introduction

- Kahoot Game:  
Is this a chemical reaction?
- Scrambled Egg Recipe

### Equipment

*For each group of 10*

- Whisk
- Spatula
- Pan
- Bowl

*For whole class*

- Plates
- Forks!

### Ingredients

*From store*

- Butter
- Eggs

*From garden*

- Garnishes including but not limited to chives or green onions

### Materials for Enjoying the Food

- Salt
- Pepper
- Plates
- Forks

### Materials for Cleaning Up

- Sponge/cleaning brush
- Paper towels
- Soap
- Trash can



CREATED BY

Belle Chasse Academy in 2022

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## PREPARATION (ESTIMATED TIME VARIES)

Purchasing of eggs and butter. Setting up cooking stations with materials.

## TEACHER BACKGROUND

The teacher should understand the difference between chemical and physical changes as well as how to properly cook eggs.

## LESSON DESCRIPTION

Students will start a lesson with a Kahoot game where they have to identify whether various pictures illustrate chemical or physical changes. They will then learn to cook eggs and see how this is a perfect example of a chemical reaction.

## LEARNING OBJECTIVES

- I can conduct an investigation to determine whether the mixing of two or more substances results in new substances.
- I can follow multi-step directions.
- I can work in a team.

**Life Skills Learning Objectives***Community Life Skills*

**CLS.2** Students cooperate and communicate well with each other.

## ACADEMIC STANDARD CONNECTIONS

**5-PS1-4:** Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

## HEALTH STANDARD CONNECTIONS

**5-E-1.1:** Analyze elements of effective decision-making model. Student will have to work on decision making strategies as they cook eggs in teams.

*Lesson Sequence***Prepare to Cook (15 mins):**

Before beginning to prepare students will play a Kahoot game where they have to identify whether various images reflect physical or chemical changes. Student will then wash their hand, tie their hair up, and put aprons on.

**Recipe Introduction (5 mins):**

Students will orally compare and contrast raw eggs and scrambled eggs.



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**Review Familiar Skills (5 mins):**

Students will review how to beat eggs, use a spatula, keep eggs from burning, and basic safety techniques.

**Demonstrate New Skills (15 mins):**

The chef or the teacher will perform a quick step by step walk through of how to scramble eggs. The chef or teacher will specifically demonstrate the skills.

**Divvy Up Tasks (5 mins):**

Students will choose team roles for egg preparation.

**Cook (15 mins):**

Students will cook eggs. Early finishers will proceed ahead to the next cleaning step.

**Enjoy (10 mins):**

Eggs will be plated and garnished with miscellaneous vegetables or herbs from the garden.

**Clean Up (10 mins):**

Students will split into washing and drying groups and clean the dishes. Other students will sponge the surfaces and throw away trash.

**Reflect (15 mins):**

Students will write a claim-evidence-reasoning response at the end of class where they explain whether a given phenomenon illustrated in a table is a chemical or physical change.

## CONNECTIONS TO GARDEN LESSONS

Eggs will be garnished with vegetables and herb from the school garden.

## POSSIBLE EXTENSIONS

Students are now capable of cooking eggs for parent and community involvement events.

## ADDITIONAL RESOURCES

Pictures of miscellaneous chemical and physical changes to be used in the introductory Kahoot game.



## OTHER COMMENTS

This lesson will take a little more than one class period so the claim-evidence-write portion of the lesson will likely need to take place on the second day.



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NEW! GRADE 5						
Lesson	Topic	Content Learning Objective(s)	Lesson Activity	Life Skills Learning Objective(s)	Academic Standard Connections	Health Standards
Menu Development	Create a recipe to scale	Design a pizza creation using fractions	<p>Engage—problem posed to students—create a representation to prove their answer.</p> <p>Explore—<u>Fraction War</u> game cards.</p> <p>Explain—Would You Rather Have statement and use fraction circles.</p> <p>Elaborate—Word problems for students to create on paper plates.</p> <p>Evaluate—Students will create actual pizza according to their plate and see if it matches the order.</p>	<p><b>CLS.1</b> Students demonstrate problem solving and resolve conflict as a team.</p>	<p><b>CCSS.MATH.CONTENT.4.MD.A.2</b> Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.</p>	



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# QUESADILLAS

Kitchen

Grade 5 • 35 mins • Fall, Winter, Spring

ADAPTED

GRADE 5

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Lola Bloom • lbloom@dcbilingual.org

## ? ESSENTIAL QUESTIONS

How can we work together to make a meal?

## ✓ ASSESSMENT

### • Observational Checklist

## 🍲 MATERIALS

### Materials for Introduction

- Recipe poster

### Equipment

*For each group of 10*

- Platter
- Knives
- 3 bowls

### Ingredients

- Tortillas
- Cheese
- Vegan cheese
- Oil
- Salt
- Tomatoes from the garden
- Cilantro
- Limes
- Pepper
- Jalapeño
- Onion

### Materials for Enjoying the Food

- Plates
- Napkins

### Materials for Cleaning Up

- Paper towels

## PREPARATION

- Gather materials, equipment, and ingredients.
- Chop a variety of seasonal vegetables, including at least 1 onion.
- Divide the vegetables, the chopped onion, and the grated cheeses each into bowls.
- Recruit an adult volunteer to heat quesadillas or to support a student volunteer in heating quesadillas.

## TEACHER BACKGROUND

Since many of the ingredients are already prepared, this is an assembly lesson that will focus on team building. Each student will have a role in the process, so make sure to identify roles ahead of time (i.e. table setter, recipe reader, measurer, cleaner, etc). The steps to making a salsa and a quesadilla are very straightforward, but prepare a visual poster for students to reference. This is an introductory lesson to making food in the kitchen. As students learn to work with each other and trust the process, more cooking skills will be introduced.

### NOTE:

Adapted from **Grade 5 Kitchen Lesson #5: Fiesta Quesadillas with Simple Salsa and Holy Moly Guacamole**, pg. 532.



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## LESSON DESCRIPTION

Students will work together to prepare quesadillas at their tables and salsa. There are time limits to be able to eat in class, so it is important that students follow directions and help each other out.

## LEARNING OBJECTIVES

**Life Skills Learning Objectives***Personal Life Skills*

**PLS.1** Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.

*Lesson Sequence***Prepare to Cook (7 mins):**

Wash hands, put on aprons, tie hair back.

**Recipe Introduction (10 mins):**

Explain to students they will be making Quesadillas with Simple Salsa and their first task will be assembling quesadillas.

Provide each table of 10 students with a bowl of sautéed vegetables, a bowl of chopped onions, and a bowl of grated cheese (each with a serving spoon). Also, provide each table with a platter and 8 (6-inch) tortillas. Each table will also get salsa ingredients.

Share visual of recipe with tables.

**Review Familiar Skills (2 mins):**

Review safe food handling practices and knife skills with students.

**Demonstrate New Skills (5 mins):**

Explain to students that each table will have some students working on the quesadillas and some working on the salsa. Divide each table group into 2 smaller groups of 5, one that will work on the salsa and one that will work on the quesadilla.

Model for students how to assemble quesadillas by layering cheese, onions, and vegetables on a tortilla before layering another tortilla on top. Request that students arrange assembled quesadillas on the platter, and when all are complete, deliver to the stove.

**Divvy Up Tasks (10 mins):**

Have students work as a team to assemble 4 quesadillas and carefully deliver the quesadillas from their table to the counter by the stove to be heated on the stove by an adult or by a student volunteer with the help of an adult.



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The salsa team at each table will follow the salsa recipe and assemble using mis en place ingredients. Once the quesadillas and the salsa are done, set the prepared food aside and students will begin clean up.

**Cook (10 mins):**

An adult or supervised student volunteer will cook the quesadillas at the stove after each group sends a representative with their platter.

**Enjoy (10 mins):**

Once the quesadillas are cooked, an adult will help serve them to the tables and students will set tables, serve salsa.

**Clean Up (5 mins):**

Students clean plates as they line up at the door.

**Reflect (5 mins):**

Class conversation questions: Would you make this at home? What do you like about the recipe? What would you change? How did you help each other make the recipe? Who would you like to shout out?

---

## POSSIBLE EXTENSIONS

Invite the kitchen team to demonstrate other salsa recipes.

40 mins • Fall

**NEW!** GRADE 5 | SCHOOL PARTNER  
LESSON PLAN

## ESSENTIAL QUESTIONS

- How do different cultures preserve produce?

## MATERIALS

- Carrots
- Cucumbers
- Peppers (bell peppers or any other variety)
- Radishes
- Vinegar (preferably white or apple cider vinegar)
- Water
- Salt
- Sugar (optional)
- Mason jars or containers with lids
- Cutting boards
- Knives (ensure appropriate safety measures)
- Measuring cups and spoons
- Bowls
- Paper towels or kitchen towels
- Labels and markers

## VOCABULARY

- Brine

## ASSESSMENT

- Observation, Finished product

## PREPARATION (30 MINS)

Set up each station with the tools and ingredients necessary for the recipe. Pre-wash and peel vegetables.

## TEACHER BACKGROUND

Practice the recipe independently to work through the process and timing. Review various pickling recipes from different cultures.



## LESSON DESCRIPTION

Pickling is a fun and delicious way to preserve and enjoy raw vegetables. Students will practice cutting and measuring skills and learn a simple process for pickling vegetables.

## LEARNING OBJECTIVES

- Students will be able to understand the process of making quick pickles using various vegetables and will have the opportunity to make their own quick pickles.

**Content Learning Objectives***Food Preparation*

**FP.4.1** Demonstrate knowledge of how to wash and store fruits and vegetables.

**FP.4.2** Describe and perform food preservation processes such as drying, freezing, pickling.

## HEALTH STANDARD CONNECTIONS

**3-5.5.7.12** Plan or prepare a nutritious snack and justify its nutritional value.

*Lesson Sequence**Engage***Ignite Interest:**

Present the students with cucumbers, carrots, radishes, and peppers; and a jar of pickles. On whiteboard, do a quick class vote: Which would you rather eat? One of the vegetables or the pickles? Tell the class that we are going to do this vote again after we complete the recipe.

*Explore***Stir Discoveries:**

Show the students the materials that they will be using today and remind them of safe kitchen practices (washing hands, knife skills, careful measuring).

*Explain***Clarify New Ideas:**

Explain that quick pickling is a method of preserving vegetables by using vinegar, salt, and water. Discuss the benefits of quick pickling, such as enhancing flavors, increasing the shelf life of vegetables, and providing a healthy snack option. Provide each group with the assigned vegetables and the necessary tools, such as cutting boards and knives. Demonstrate how to slice the vegetables into desired shapes, such as rounds, sticks, or thin slices, ensuring appropriate safety measures are followed.

*Elaborate* **Watch It Rise:**

**Brine Preparation (5 minutes)** Instruct the students to gather bowls and measuring cups. Explain that the brine is a mixture of vinegar, water, salt, and optionally sugar for flavor balance. Provide the measurements for the brine: 1 cup vinegar, 1 cup water, 1 tablespoon salt, and 1 tablespoon sugar (optional). Instruct the students to measure and combine the ingredients in their bowls. Allow them to stir the brine until the salt (and sugar) dissolves.

**Quick Pickle Assembly (10 minutes)** Provide each group with mason jars or containers with lids. Instruct the students to pack their prepared vegetables into the jars, filling them up to about  $\frac{3}{4}$  full. Demonstrate pouring the brine into the jars, ensuring the vegetables are fully submerged. Remind the students to leave some headspace at the top of the jars for expansion during the pickling process. Have the students securely close the lids on their jars. Label the jars with student names.

*Evaluate* **Reflect:**

Students will clean up materials. Tell the students that the pickles will be ready to eat at the next class. Ask them what they think will happen inbetween this class and the next to the vegetables.

**NOTE:**

This lesson was originally created for Grade 5 students. To accommodate the subject matter, Grade 4 standards for the kitchen were used.

# WELCOME TO THE KITCHEN

Kitchen

Grade 2 • 35 mins • Fall, Winter, Spring, Summer

ADAPTED

GRADE 5

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Lola Bloom • lbloom@dcbilingual.org



ESSENTIAL QUESTIONS

- How do we care for our community in the teaching kitchen?



ASSESSMENT

- Student Work



MATERIALS

## Materials for Introduction

- Large chart paper
- Sticky notes
- Markers
- Visuals (soup image, stock pot, word wall)

PREPARATION (30 MINS)

Divide sticky notes per station and sufficient writing utensils. Make word wall with suggested contribution words and phrases. Draw large stock pot on large chart paper

TEACHER BACKGROUND

This is a time for the teacher to listen and engage students in respectful conversation.

LESSON DESCRIPTION

This is a lesson to introduce students to the space and come together to create group agreements.

LEARNING OBJECTIVES

## Life Skills Learning Objectives

### Personal Life Skills

**PLS.1** Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.

### NOTE:

Adapted from **Grade 5 Kitchen Lesson #1: Welcome to the Kitchen**, pg. 340.



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*Lesson Sequence*

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**Recipe Introduction (5 mins):**

How is our classroom like a soup? What are the ingredients in a soup (show a picture on screen)? Each one of you is like an ingredient in soup—but our soup is a classroom. What special thing do you bring to the group? (Show word wall with words like listener, follows directions, sharer, takes turns, cheerleader, etc)

**Divvy Up Tasks (2 mins):**

Instruct each student to write down what “ingredient” they bring to the class “soup” on a sticky note.

**Cook (15 mins):**

Students will take a few minutes to write down what “ingredient” they bring to the class “soup” on a sticky note. Once complete all stickies will be added to large chart paper.

After students complete the first task, say “Now that we see all of the special things each of you bring to the class, let’s talk about how we can make sure that everyone has an opportunity to shine.”

Students will then work at each of their tables to discuss two rules that they think should be part of the whole class agreements. Each table can only submit two, so they need to come to a consensus as a table. Students will write the agreements on paper at each table.

**Reflect (15 mins):**

Together we will let each table propose the rules to the whole class, and the teacher writes them on chart paper up front. Ask the students, “Were there any challenges in agreeing on rules? Why? How did you solve the problem?”

Duplicate rules will be merged. Once the list is final, all students will vote and sign for class agreement.

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**POSSIBLE EXTENSIONS**

This lesson can serve as an opportunity to reflect and evaluate class community practices for the remainder of the year.

ADAPTED

GRADE 7

SCHOOL PARTNER  
LESSON PLAN

## ? ESSENTIAL QUESTIONS

- What are some common flatbreads around the world?
- What are some common yeast breads around the world?
- What are some common quick breads around the world?
- How do grains nourish our bodies?
- How is bread made?

## MATERIALS

- **Indian Naan Bread**
- Homemade Tortillas
- Delmonico's Cornbread

## PREPARATION (30 MINUTES)

### For the Naan:

- Gather materials, equipment, and ingredients listed in the following Lesson Sequence.
- Pre-make six batches of dough to be used with the first class so that it can rise for about an hour before being rolled out and baked. Then the dough that the first class mixes will rise for about an hour and be used by the second class, and so forth.
- Heat water on the stovetop to 100–110 degrees F (at least 1/2 cup for each small group).
- Prepare and warm clarified butter (at least 1/2 cup for each small group).

### For the Tortillas:

- In a bowl work the masa harina together with 1 cup warm water, 3 tablespoons softened butter and 1/2 teaspoon salt until it becomes a cohesive dough. Don't overwork it.

### For the Cornbread:

- Preheat oven to 400 degrees F and grease a 10-inch cast iron skillet.

## LESSON DESCRIPTION

In this lesson, students will share what they know about bread and learn about flatbreads, yeast breads, and quick breads. Students will learn about yeast and how to properly use a sifter while making different types of bread together in their small groups.

### NOTE:

Adapted from **Grade 2 Kitchen Lesson #18: Indian Naan Bread**, pg. 499.



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## LEARNING OBJECTIVES

**Content Learning Objectives***Food Preparation*

**FP.7.1** Demonstrate knowledge of safe food handling practices with increased skill.

**FP.7.2** Use a variety of cooking techniques

**FP.7.3** Identify the right cooking technique to complete a task and articulate why it is the correct technique.

*Kitchen Tools and Equipment*

**KTE.7.1** Use tools introduced in previous grades independently.

**KTE.7.2** Name, identify, locate, and safely use new tools/equipment.

*Recipe Concepts*

**RC.7.1** Compare and contrast recipes from various world cultures

*Health Concepts*

**HC.7.5** Identify various ways cultures incorporate food groups into their diets.

*Lesson Sequence***Prepare to Cook (5 minutes):**

Have students tie hair back, wash hands, put on aprons (if relevant) and take their seats.

**Recipe Introduction (5 minutes):**

- Explain to students that they will be baking bread and review the main ingredients to make dough for the bread: flour and water. Then, introduce the concept of flavor enhancers and explain how salt and butter, which is a fat, can be used to enhance flavor. Next, explain how leavening agents are added to dough to make it rise. Leavening agents create gas which gets trapped in the dough to form tiny bubbles. When the dough is heated in the oven, the tiny gas bubbles rise like hot air balloons and make the “bread rise”. One leavening agent is called yeast. Yeast is a tiny living fungus (like mushrooms!) that likes to eat sugar. When yeast eats sugar, it releases carbon dioxide (humans release carbon dioxide when they breathe out or exhale).
- Remind students that grains nourish our bodies by providing energy in the form of carbohydrates. It is recommended that grains make up a quarter of your plate for each meal.
- Explain to students that they will be making 3 different types of breads; flatbread, unleavened bread and cornbread (a quick bread). Many flatbreads are unleavened, meaning they do not use yeast like the cornbread and tortilla, however, the recipe used today will include yeast.
- Show students images of flatbreads, yeast breads and quick breads from around the world using the flashcards.
- Explain to students that they will be making naan, a flatbread from India, tortilla from Mexico, and cornbread from America.

**NOTE:**

Lesson sequence details for *Review familiar skills, Demonstrate new tools and skills, Divvy up tasks, Cook!, and Enjoy!* are outlined in **Indian Naan Bread** lesson on page 499 and can be used for all breads in this lesson.



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**Reflect:**

- What bread did you enjoy the most and why?
- In your opinion, what additions to the recipe do you think would enhance the taste? (i.e. herbs, vegetables, etc.)

## INGREDIENTS

**For the Indian Naan Bread:****• Indian Naan Bread****For the Homemade Tortillas:**

Yield: 12 tortillas

- 2 cups masa harina
- 1 cup warm water
- 3 tablespoons butter, softened, plus more for brushing on tortillas when reheating
- ½ teaspoon salt

**For the Delmonico's Sweet Cornbread:**

Yield: 8 to 10 servings

- 3 tablespoons salted butter, plus more for serving
- 4 large eggs
- ¾ cup water
- ⅔ cup vegetable oil
- ¼ cup plus 1 tablespoon heavy cream
- 3 tablespoons buttermilk
- 3 tablespoons honey
- 1 tablespoon dark corn syrup
- 2 ¼ cups all purpose flour
- 1 cup yellow cornmeal
- ½ cup plus 1 teaspoon sugar
- 1 ½ teaspoons baking powder
- ¾ teaspoon salt

**NOTE:**

Masa harina is flour made from corn that has been cooked and soaked in lime water. Traditionally used for corn tortillas, it is available in Spanish markets and supermarkets. If you can't get fresh poblanos, substitute New Mexican Green, Cubanelles, or Anaheim chile peppers.



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## DIRECTIONS

**For the Indian Naan Bread:****• Indian Naan Bread****For the Homemade Tortillas:**

With wet hands, divide the dough into 12 balls and place 2 pieces of plastic wrap on each, top and bottom. Flatten each tortilla in a tortilla press or with a rolling pin, heavy pie pan, or skillet.

Heat a heavy dry 9-inch skillet over medium heat, and brown the tortillas for about 1 minute on each side. Just before serving, rub each tortilla all over with  $\frac{1}{4}$  teaspoon softened butter and reheat in a hot skillet over high heat, for about 15 seconds on each side.

**For the Delmonico's Sweet Cornbread:**

Melt the 3 tablespoons of butter. In a large bowl, whisk together the eggs, water, oil, cream, and buttermilk. While still whisking, drizzle in the melted butter, honey, and dark corn syrup. Add all of the dry ingredients to the liquid ingredients and whisk just until thoroughly combined. Pour the batter into the greased skillet and bake until golden on top and a toothpick inserted into the center comes out clean, about 30 minutes.

Remove the cornbread from the oven and brush the top with butter. Let cool briefly before serving; serve hot.



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# CILANTRO GENETICS

*Kitchen*

Grade 7 • 110 mins • Fall, Winter, Spring 

NEW!

GRADE 7

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Noah Welsh • noah\_welsh@bcaemail.org



## ESSENTIAL QUESTIONS

- Why do people exhibit different traits?



## MATERIALS

- Cilantro
- Tomatoes
- Onions
- Peppers
- Tortilla chips
- PTC paper
- Sticky notes
- Paper plates
- Soap
- Water
- Sponge/cleaning brush



## VOCABULARY

- Gene
- Trait



## ASSESSMENT

Formative discussion throughout the lesson, consensus model and **observational checklist**.

## PREPARATION (ESTIMATED TIME VARIES)

All salsa ingredients unavailable in the garden should be prepurchased from the store.

## TEACHER BACKGROUND

Students should understand asexual and sexual reproduction. Additionally, they should know how to build blind experiments.



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## LESSON DESCRIPTION

Student will make two types of salsa, one with cilantro and another without. These will then be used in a blind taste test, along with PTC paper, to introduce the concept of genetic traits.

## LEARNING OBJECTIVES

- I can construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals probability of surviving and reproducing in a specific environment.
- I can work in teams and divide up tasks.

## Life Skills Learning Objectives

*Community Life Skills*

**CLS.2** Students cooperate and communicate well with each other.

## ACADEMIC STANDARD CONNECTIONS

**NGSS.MS-LS1-4** Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

**7-MS-LS1-4** Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individual's probability of surviving and reproducing in a specific environment.

## HEALTH STANDARD CONNECTIONS

**National Health Education Standard 2:** Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

*Lesson Sequence**Engage***Ignite Interest (15 mins):**

Students will be given the open ended bellwork question: why do people exhibit different traits? A whole group classroom discussion of the hook question should take place here. The teacher must be careful not to explicitly answer the question yet.

*Explore***Stir Discoveries (40 mins):**

Students will harvest ingredients in the garden. Students will hypothesize why some students like certain foods and others do not. This will likely develop into a dialogue about both genetic and environmental factors as well as the interplay between the two. They will then be split into two groups to make salsa. One group will make salsa with cilantro while the other group will make salsa without cilantro. All other aspects of the two recipes will be identical.



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*Explain***Clarify New Ideas (15 mins):**

Students will journal about their initial thoughts on trait inheritance before having a whole class discussion about the particular TRAITS being examined. Here they will hypothesize how these TRAITS might be the products of GENES.

*Elaborate***Watch It Rise (20 mins):**

The students will be divided into two groups which make two batches of salsa. One batch will be prepared with cilantro from the garden while the other will not. Students will then design and conduct a blind taste test comparing the two recipes. Afterwards students will conduct a blind taste test using PTC paper.

*Evaluate***Reflect (20 mins):**

Students will collaboratively work together on the whiteboard with the teachers guidance to conduct a consensus model as to why some students like cilantro and others do not (as well as to why some students can taste PTC and others cannot).

## CONNECTIONS TO GARDEN LESSONS

The cilantro and other salsa ingredients used in the kitchen recipe will be grown and harvested in the garden.

## POSSIBLE EXTENSIONS

Students can later prepare salsa for community or parent involvement events.

## ADDITIONAL RESOURCES

The next day the teacher should follow up with [color blindness tests](#).



## OTHER COMMENTS

This lesson will likely stretch into a second day.



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# DEHYDRATING VEGETABLES & BOMB CALORIMETRY

*Kitchen*

Grade 7 • 140 mins • Fall, Winter, Spring 

NEW!

GRADE 7

SCHOOL PARTNER  
LESSON PLAN

SUBMITTED BY

Noah Welsh • [nwelsh@bellechasseacademy.org](mailto:nwelsh@bellechasseacademy.org)

## ESSENTIAL QUESTIONS

- How much energy is in our food and how do we measure it?

## MATERIALS

- Lighter (teacher only)
- 2 types of vegetables from garden
- Refrigerated water
- Ringstand
- Wire Gauze
- Empty Soda Cans
- Cloth for insulating can
- Tape
- Graduated Cylinders
- Food
- Dehydrater

## VOCABULARY

- Calorie
- Temperatur
- Heat
- Thermal energy
- Kinetic energy

## ASSESSMENT

Students will submit design drawings of their bomb calorimetry systems and **observational checklist**.

## PREPARATION (ESTIMATED TIME VARIES)

At least two types of vegetables need to be ready for harvest in the garden. Lab supplies need to be predistributed to lab groups.



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## TEACHER BACKGROUND

Students already have comprehension of thermal energy as a phenomenon of particle mechanics. They can predict changes in molecular motion as a function of temperature and pressure changes. Additionally, they can identify chemical reactions and understand conservation of mass and energy.

## LESSON DESCRIPTION

Students will dehydrate garden vegetables. After this dehydration process they will build bomb calorimeters in order to calculate the amount of energy in the different types of dehydrated vegetables.

## LEARNING OBJECTIVES

- I can plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.
- I can develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.
- I can explain the process of dehydrating food and how it helps with long term food storage.

## ACADEMIC STANDARD CONNECTIONS

**7-MS-PS3-4:** Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.

**7-MS-LS1-7:** Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

## HEALTH STANDARD CONNECTIONS

The calculation and examination of caloric content of food will serve students in bettering their understanding of energy content of food and their own personal energy requirements.



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*Lesson Sequence**Engage***Ignite Interest (20 mins):**

Students will harvest different vegetables from the garden and be asked how they can calculate the amount of calories in each food.

*Explore***Stir Discoveries (50 mins):**

Students will dehydrate vegetables and design bomb calorimeters to test the amount of calories in different vegetable samples.

*Explain***Clarify New Ideas (20 mins):**

Students will journal about and discuss why different food samples were able to generate different amounts of heat (by heating water different amounts).

*Elaborate***Watch It Rise (30 mins):**

Students will design a scaled up laboratory version of a bomb calorimeter that could be used to calculate caloric content of food at an industrial level.

*Evaluate***Reflect (20 mins):**

Students will discuss and critique the calorimeter designs of their peers. Here they will predict what sorts of errors their classmates devices are likely to yield.

## CONNECTIONS TO GARDEN LESSONS

Vegetables to be dehydrated and test will be harvested from the school garden

## POSSIBLE EXTENSIONS

Engineering design principle applied in this lesson will serve the students in many future science lessons.

## ADDITIONAL RESOURCES

The teacher should google images of bomb calorimeters for students to discuss how they work.



## OTHER COMMENTS

This lesson will take two days.



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## TOPIC

Health Concepts

NEW!

GRADE 7

SCHOOL PARTNER  
LESSON PLAN

## LEARNING OBJECTIVES

### Content Learning Objectives

#### Health Concepts

**HC.7.1** Demonstrate an understanding of how seasonality influences traditional cultural dishes.

**HC.7.3** Relate seasonality to availability of ingredients.

#### Culinary Flavors and Textures

**CFT.7.1** Utilize taste sensations: sweet, sour, bitter, and salty in a series of lunch items for the class.

**CFT.7.2** Describe the relationship between culinary arts and sight, smell, and taste. Use traditional world cuisines as examples.

#### Kitchen Tools and Equipment

**KTE.7.1-4** Kitchen Tools & Equipment

### Life Skills Learning Objectives

#### Community Life Skills

**CLS. 2** Student cooperate and communicate well with each other.

## PROCEDURE

- Revisit who is Chef Emeril. Show video of last year's student highlight.
- Guide students in reading and understanding a recipe card. Go over the term *mise en place*.
- Demo preparing: Garlic and Herb Radishes

## INGREDIENTS

- 12 medium radishes, cleaned and quartered
- 1 medium yellow onion, chopped
- 1 green bell pepper, chopped
- 6 cloves of garlic, minced
- ½ tsp parsley, chopped fine
- ½ tsp thyme, chopped fine
- ½ tsp rosemary, chopped fine
- 2 tbsp olive oil
- 1 tsp kosher salt
- 1 tsp ground black pepper



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## PROCEDURE

In a sauté pan, heat oil over a medium high heat. Add in onions, bell peppers, and radishes. Sauté until onions and peppers become translucent, about 3–5 minutes. Add in garlic and sauté for another 2 minutes, making sure not to burn the garlic. Finally, adding the herbs and spices. Stir well and sauté for another minute or two. Taste and adjust seasonings as needed. Serve as a side dish or a substitution for potatoes.

Students will have a taste of the dish, critique, and explore the possibilities for utilizing radishes in place of potatoes for dietary needs.

## CONNECTION TO GARDEN

Use produce from the garden and other ingredients needed, if available. Deliver compost to the garden. As you enjoy, trace ingredients back to the garden.

## ACADEMIC STANDARD CONNECTIONS

**CCSS.ELALITERACY.W.7.2C**

Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.

## HEALTH STANDARD CONNECTIONS

**National Health Education Standard 7**


Students will demonstrate the ability to practice health enhancing behaviors and avoid or reduce health risks.



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NEW!								GRADE 7							
Lesson	Topic	Learning Objective(s)	Lesson Activity	Life Skills Learning Objective	Connections to Garden Lessons	Academic Standard Connections	Health Standards								
Science Collaboration  Spherification 	Kitchen Behaviors  Culinary Flavors and Textures (CFT)  Kitchen Tools and Equipment (KTE)	<p><b>HC.6.4</b> Identify where products from different food groups are sourced locally.</p> <p><b>HC.6.6</b> Demonstrate knowledge of whole foods, minimally processed foods and processed foods.</p> <p><b>FP.6.1</b> Demonstrate knowledge of safe food handling practices.</p> <p><b>FP.6.2</b> Name and describe basic cooking techniques and use them as instructed to prepare recipes</p> <p><b>KTE.6.1-4</b> Kitchen Tools and Equipment</p>	<p>Have students explore the kitchen to learn the basic rules and systems. Divide students into teams of two groups to complete lesson on molecular gastronomy: spherification</p> <p>Group 1: will use lemonade Group 2: will use soda</p> <p>Review the tools, ingredients, and procedures. Once the lesson is complete have each team taste their creations and answer questions regarding the lesson.</p>	<p><b>PLS.1</b> Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments</p> <p><b>CLS.5</b> Students participate in the development of agreed upon protocols and behaviors for the garden and the kitchen environments.</p> <p><b>PLS.4</b> Students are active and engaged learners who show up on time prepared to learn, and manage their time wisely.</p>	<p>Try using fresh fruit from the garden. Blend or juice and utilize for spherification test.</p>	<p><b>NGSS.</b> <b>MS.PS1.B.</b> Chemical Reactions—Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. <b>(MS-PS1-5)</b></p>	<p><b>National Health Education Standard 5:</b> Students will demonstrate the ability to use decision making skills to enhance health.</p>								



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## PREPARATION

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GRADE 7

SCHOOL PARTNER  
LESSON PLAN

### Mixing the Soda and Sodium Alginate:

- Using a hand-held blender or mixing tool, mix the soda or flavored liquid with sodium alginate. This process may take longer than expected, around 5–10 minutes. Let the mixture rest to remove any trapped air bubbles. For the best results, let it rest overnight.

### Preparing the Calcium Chloride Solution:

- Using the blender or mixing tool, combine 500 grams of water with calcium chloride until fully mixed. For optimal results, let the solution rest in the refrigerator overnight.

### Setting Up the Spherification Station:

- Arrange the following: soda and sodium alginate mixture, calcium chloride bath, tap water rinse, and a holding vessel.

### Time Sensitivity:

- These mixtures are time-sensitive. For maximum effect, use within 15 minutes.

## PROCEDURE

- Fill pipettes with the juice or soda and sodium alginate solution.
- Gently squeeze the pipettes (syringes or squeeze bottles could also work) to release the solution drop by drop into calcium chloride bath. Be careful not to drop the liquid from too great of a height or they will flatten and resemble small pancakes instead of caviar spheres.
- After you have dropped a small quantity into the bath, remove the spheres from the calcium chloride solution with a small slotted spoon.
- Blot the bottom of the spoon with a towel to remove the calcium chloride solution.
- Place spheres in the water rinsing bath.
- Immediately after rinsing, remove the spheres from the tap water and sample the results.




## ESSENTIAL QUESTIONS

1. Why is it called spherification? *It is the process of turning a liquid into a semi solid sphere or pearl.*
2. How did it first develop? *Originally created as a process for encapsulation in the drug industry for time released medicines.*
3. What is the difference of spherification and reverse spherification? *Both form layers around a liquid, but the reverse process allows for a liquid center which will remain liquid for a longer period of time and allows for a larger size.*
4. Why does a liquid become entirely a solid in spherification and not in the reverse method? *The calcium alginate ions create the outer layer of the shell. The calcium ions are small enough to permeate the shell and continue to gradually turn the alginate liquid into a solid. The process of reverse spherification doesn't behave the same way due to the fact that the alginate molecules are too large to diffuse through the calcium chloride shell. Spherification is time sensitive while reverse spherification is not. The overall theory is that of membrane diffusion.*
5. What is the byproduct of this process?



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NEW! GRADE 8							
Lesson	Topic	Content Learning Objective(s)	Lesson Activity	Life Skills Learning Objective	Connections to Garden Lessons	Academic Standard Connections	Health Standards
Grade 8 Social Studies Collaboration  History of Calas 	Health Concepts (HC)  Food Preparation (FP)  Culinary Flavors and Textures (CFT)  Kitchen Tools and Equipment (KTE)  Kitchen Behaviors (KB)	<b>HC.6.4</b> Identify where products from different food groups are sourced locally.  <b>HC.6.6</b> Demonstrate knowledge of whole foods, minimally processed foods and processed foods.  <b>FP.6.1</b> Demonstrate knowledge of safe food handling practices.  <b>FP.6.2</b> Name and describe basic cooking techniques and use them as instructed to prepare recipes  <b>KTE.6.1-4</b> Kitchen Tools and Equipment	Have students explore the kitchen to learn the basic rules and systems.  Review the history of Calas as it ties into the Louisiana Studies lessons students have been learning.  Review the kitchen tools, ingredients, and safe food handling practices.  Then, have students prepare a batch of <b>Calas</b> using the provided recipe.  Once the lesson is completed have students taste their creations and answer questions regarding the lesson.	<b>CLS.4</b> Students appreciate and are respectful of differences and diversity in their communities.  <b>CLS.5</b> Students participate in the development of agreed upon protocols and behaviors for the garden and the kitchen environments.  <b>PLS.4</b> Students are active and engaged learners who show up on time prepared to learn, and manage their time wisely.	Have students write what they think they could pair with Cala to make a signature dish that is growing in the garden.	<b>NGSS.MS.LS.D.</b> Information Processing  <b>CCSS.ELA-Literacy.SL.8.1</b> Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.	<b>National Health Education Standard 5:</b> Students will demonstrate the ability to use decision making skills to enhance health.

This lesson was a collaboration between the culinary instructor and 8th grade social studies teacher at Belle Chasse Academy. To accommodate the class, 6th Grade Content Learning Objectives for the kitchen were used.



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NEW!

GRADE 8

SCHOOL PARTNER  
LESSON PLAN

## CALAS RECIPE (MAKES 12)

- 2 cups cooked rice
- 6 tablespoons flour
- 3 heaping tablespoons sugar
- 2 teaspoons baking powder
- ¼ teaspoon salt
- 2 eggs
- ¼ teaspoon vanilla
- Vegetable oil (for deep-frying)
- Confectioners' sugar

## DIRECTIONS

1. In a bowl, combine rice, flour, sugar, baking powder, salt. Mix until rice is coated with dry ingredients.
2. Add eggs and vanilla and mix well.
3. Heat vegetable oil for deep-frying to 360 degrees.
4. Carefully drop rice mixture by spoonfuls into hot oil and fry until brown.
5. Remove from oil with a slotted spoon and drain on paper towels.
6. Sprinkle it with confectioners' sugar.
7. Serve hot.

## CALAS HISTORY

Calas, often called Creole rice fritters or rice doughnuts, are rice cakes. If you were to go to Africa today, to Ghana or Liberia, you would find women in the open-air markets making calas. The origin of Calas is most often credited to enslaved people who made the trip across the Atlantic Ocean from rice-growing regions of Africa, and the dish has become a very important part of New Orleans' history.

Before the Louisiana Purchase in 1803, the city of New Orleans was ruled by the Code Noir, a decree passed by King Louis XIV of France in 1685 defining the conditions of slavery in the French colonial empire.

Free people of color were still placed under restrictions via the Code Noir, but were otherwise free to pursue their own careers. Compared to other European colonies in the Americas, a free person of color in the French colonial empire was highly likely to be literate, and had a high chance of owning businesses, properties and enslaved people.

In the 1700s, during the days of French rule, enslaved people were given one day off each week, usually Sundays. And so after church, African women would roam the streets of the French Quarter touting their wares with the chant "Belle Calas! Tout chauds!"—"Beautiful calas! Very hot!"

When the Spanish took control of Louisiana in the 1760s, they brought with them a powerful legal instrument,



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coartacion, which gave enslaved people the right to buy their freedom. For enslaved Black women in the city, selling calas was a key way to earn money for these purchases.

It is said that women were able to buy freedom for their families and for themselves.

Americans ended coartacion soon after the 1803 Louisiana Purchase. But New Orleans remained home to thousands of free people of color—and throughout the 1800s, many of them, especially women, made their living selling calas and other street foods.

I'd say that's a lot more interesting and historic than some old beignet.

Source: [Reference for History](#)



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## MATERIALS

- *Sugar Changed the World* by Marc Aronson and Marina Budhos
- Copies of the poem *Sugar Cane* by Grace Nichols
- Digital image of *Cane Cutting Scene* folk art painting (circa 1860–1880)
- Smartboard or projector
- Notebooks or paper
- Pens/ pencils / Markers
- Observation Boxes?
- Whiteboard / Chart Paper
- Access to the school garden



GRADE 8

SCHOOL PARTNER  
LESSON PLAN

## OVERVIEW

There are two resources and three activities that will introduce the students to the unit curriculum. The subject of sugar is complex as it ties into not only botany, but also economics and civil rights. The goal is to spark a conversation on these topics while enhancing literacy skills.

Prior to delving into the full text of ‘Sugar Changed the World’ by Aronson and Budhos, student interest can be built by using resources #1, a folk-art painting of a sugar cane farm from 1860–1890.

Next, the class can use the school garden as resource #2.

Lastly, a poem by Grace Nichols, ‘Sugar Cane,’ will be read and analyzed for new vocabulary and imagery. Each of these resources will help the students to build an “active comprehension” to begin thinking about the role and impact of sugar cane, to begin the process of building questions, and to develop increased vocabulary.

## ACTIVITY #1

Use Smartboard to display folk art image of ‘Cane Cutting Scene’ circa 1860–1880. This painting portrays African American men cutting sugar cane. Students are instructed to spend 2 minutes recording as many observations as possible about the image in a brainstorming session. Next, students are asked to consider what questions are not being answered in this image. Use a whiteboard or other format to record students’ inquiries.



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ACTIVITY #2

Students are tasked to create 3 Observation Boxes. Label the boxes, “1) texture, 2) appearance, 3) size/shape.” Each student is challenged to fill in each of the boxes with literary descriptors (minimum 3 observations per box). Next, time for a mini field trip out to the school garden to visit the sugar cane. Students are given 10–15 minutes for this activity.

	School Garden Trip	‘Sugar Cane’ by Grace Nichols
<b>Texture</b>	Ex. rough texture like a cat’s tongue	
<b>Appearance</b>	Ex. looks like corn or large grass	
<b>Size/Shape</b>	Ex. over 6 feet tall, straight leaves	

ACTIVITY #3

For this activity, students are given a copy of the poem ‘Sugar Cane’ by Grace Nichols. They are then tasked to find the descriptive vocabulary that the author uses to create visual imagery of the sugar cane plant and match it to the category that fits.

	School Garden Trip	‘Sugar Cane’ by Grace Nichols
<b>Texture</b>		Ex. skin thick
<b>Appearance</b>		Ex. shiver like ague when it rain, jaundice when he ripe
<b>Size/Shape</b>		Ex. growing tall

CONCLUSION

Each of the activities builds student’s ability to comprehend text through analysis, discussion, comparison, and descriptive exercises:

- The first activity opens the door to the larger lesson on the importance of sugar cane with reflective thinking exercise that moves into a discussion web format so that students can compare perspectives and learn from their classmates.
- The second stretches the student’s imaginations to begin to see the dynamic nature of a plant and to use their vocabulary and writing skills to bring the living being onto the page.
- The third activity is the first reading activity, and it builds on the second activity with compare and contrast techniques that challenge students to take their written work and lay it side by side with an author’s.



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All of these activities help to bring animation and interest into the topic prior to diving headfirst into the main text. For the main lessons of this unit, the text ‘Sugar Changed the World’ will be studied. As the topic of sugar cane is relative to its growing conditions and the politics of its production during the preindustrial period, a comprehension of the weight, height, density, and general toughness of the plant will give the coming discussions and written reflections a real meaning to the students.

Future lessons will include a map charting the spread of the plant along the routes taken during the European colonization of the New World. There will be a reflective essay on the lives of the people who worked to grow and harvest the plant. There will also be a persuasive perspective assignment in which students either create an advertisement selling the usefulness of or an argument explaining the danger of using sugar. Each of these lesson approaches will require students to use the information and vocabulary gained from the reading but will also challenge them to think creatively about the power that a single plant can have on the impact of an individual, a time, or a political power. This is designed to empower the students to see the influence of a seemingly small factor and to engage constructively in reasoning skills to analyze and evaluate the influences of a factor that has impacted their way of life.

#### REFERENCES

Aronson, Marc. (2010). *Sugar changed the world: a story of magic, spice, slavery, freedom, and science*. Clarion Books, Boston, Ma.

[Sugar Cane—The Children’s Poetry Archive](#)



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