WELCOME TO THE GARDEN

Garden

NEW! GRADES K–5 | SCHOOL PARTNER LESSON PLAN

TIME AND LENGTH
45 min

LOCATION
Garden

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

CUNNINGHAM ELEMENTARY SCHOOL
AUSTIN Independent School District

PEAS
PARTNERS FOR EDUCATION, AGRICULTURE & SUSTAINABILITY

CREATED BY
Cunningham Elementary School and Partners for Education in 2021

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/communidad
- 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

PARTNERS FOR EDUCATION
AGRICULTURE & SUSTAINABILITY

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.