

LEARNING OBJECTIVES *Garden*

GRADES K-2			
TOPIC	KINDERGARTEN	GRADE 1	GRADE 2
Garden Planning and Maintenance (GPM)	<p>GPM.K.1 Describe what lives in a garden and name what it needs to live.</p> <p>GPM.K.2 Understand how to be present in the garden with all five senses.</p>	<p>GPM.1.1 Decide as a group what to plant in the garden.</p> <p>GPM.1.2 Demonstrate knowledge of what plants need.</p> <p>GPM.1.3 Demonstrate ability to plan a garden that has a diversity of plants.</p> <p>GPM.1.4 Understand the difference between a weed and a cultivar.</p>	<p>GPM2.1 Understand how to prepare soil for planting in terms of weeding and cultivating.</p> <p>GPM.2.2 Understand when to plant seeds and transplant seedlings into the garden</p>
Garden Tools and Equipment (GTE)	<p>GTE.K.1 Name, identify, and safely use new tools.</p> <p>GTE.K.2 Match new tools to tasks.</p> <p>GTE.K.3 State how to properly care for new tools.</p> <p>GTE.K.4 Describe the purpose of a new tool.</p> <p>New Tools: Hands, hand trowel, harvest basket and 5-gallon bucket</p>	<p>GTE.1.1 Use tools introduced in previous grades independently.</p> <p>GTE.1.2 Name, identify, and safely use new tools.</p> <p>GTE.1.3 Match tools to tasks.</p> <p>GTE.1.4 State how to properly care for tools.</p> <p>New Tools: Garden string, hand weeding tool, cleaning brush, and watering can</p>	<p>GTE.2.1 Use tools introduced in previous grades independently.</p> <p>GTE.2.2 Name, identify, and safely use new tools.</p> <p>GTE.2.3 Select the correct tool to perform and complete a task with minimal instructor input.</p> <p>GTE.2.4 Explain the reason for selecting a tool for a task.</p> <p>New Tools: Spading fork, hand fork, rain gauge, and air thermometer</p>
Soil (S)	<p>S.K.1 Identify the difference between brown (carbon) and green (nitrogen) in a compost system.</p> <p>S.K.2 Identify living and non-living components of soil.</p> <p>S.K.3 Identify different types of soil in the garden.</p> <p>S.K.4 Describe what lives and what does not live in soil.</p>	<p>S.1.1 Identify and draw organisms living in various soil samples.</p> <p>S.1.2 Describe how soil is living and how it is not living.</p> <p>S.1.3 Describe the relationship between living and non-living things in soil.</p>	<p>S.2.1 Explain how soil is made.</p> <p>S.2.2 Describe characteristics and components of soil.</p> <p>S.2.3 Balance carbon (browns) and nitrogen (greens) in compost.</p>

TOPIC	KINDERGARTEN	GRADE 1	GRADE 2
Weather and Seasons, Climate and Geography (WSCG)	<p>WSCG.K.1 Name the four seasons and what foods grow in each season.</p> <p>WSCG.K.2 Describe where you live and the foods that grow there.</p>	<p>WSCG.1.1 Describe weather.</p> <p>WSCG.1.2 Describe what foods grow nearby and what foods come from other places.</p>	<p>WSCG.2.1 Name, describe, and collect data on local weather events.</p> <p>WSCG.2.2 Describe how geographic place influences what grows in the garden.</p> <p>WSCG.2.3 Predict and apply weather patterns to the garden.</p>
Plants (P)	<p>P.K.1 Describe the life cycle of a plant.</p> <p>P.K.2 Identify edible and non-edible plants in the garden.</p> <p>P.K.3 Understand what above ground and underground mean.</p>	<p>P.1.1 Understand what a seed is and what it does.</p> <p>P.1.2 Understand that a plant produces another plant like itself.</p> <p>P.1.3 Understand form and function of seed design.</p> <p>P.1.4 Identify edible seeds in the garden.</p>	<p>P.2.1 Describe the structure and functions of plant parts.</p> <p>P.2.2 Identify edible leaves and stems in the garden.</p> <p>P.2.3 Identify weeds.</p> <p>P.2.4 Describe the role of plants in the food web.</p>
Garden and Food Systems (GFS)	<p>GFS.K.1 Identify insects in the garden.</p> <p>GFS.K.2 Develop an understanding of abundance and scarcity in the garden.</p>	<p>GFS.1.1 Identify the roles beneficial insects and pests play in the garden.</p> <p>GFS.1.2 Describe a soil web. Identify fungi, bacteria, and invertebrates.</p>	<p>GFS.2.1 Identify pollinators in the garden, what service they perform, and how to increase the number of them living in the garden.</p> <p>GFS.2.2 Describe structure and function of insect parts.</p> <p>GFS.2.3 Strategize solutions for abundance and scarcity in the garden.</p>

GRADES 3-5			
TOPIC	GRADE 3	GRADE 4	GRADE 5
Garden Planning and Maintenance (GPM)	<p>GPM.3.1 Calculate number of seeds and seed spacing for garden beds.</p> <p>GPM.3.2 Describe and/or demonstrate proper weeding techniques.</p> <p>GPM.3.3 Identify needs and create support systems for various plants (beans, peas, tomatoes, cane fruit).</p>	<p>GPM.4.1 Demonstrate ability to create a planting map for the garden.</p> <p>GPM.4.2 Calculate amounts of produce to grow in school garden.</p> <p>GPM.4.3 Calculate square footage of garden beds and paths.</p>	<p>GPM.5.1 Calculate volumes of soil, compost, and/or amendments for garden beds.</p> <p>GPM.5.2 Demonstrate understanding of when to water by observing plants and soil for signs of no or low moisture.</p> <p>GPM.5.3 Demonstrate ability to create watering system for plants.</p> <p>GPM.5.4 Identify a need in the school or community and create a garden plan to address it.</p>
Garden Tools and Equipment (GTE)	<p>GTE.3.1 Use tools introduced in previous grades independently.</p> <p>GTE.3.2 Name, identify, and safely use new tools.</p> <p>GTE.3.3 Select the correct tool to perform and complete a task with minimal instructor input.</p> <p>GTE.3.4 Explain form and function of tools in garden environment.</p> <p>GTE.3.5 Apply skills to solutions in garden environment.</p> <p>New Tools: Staking and trellising equipment, hoe, measuring tape</p>	<p>GTE.4.1 Use tools introduced in previous grades independently.</p> <p>GTE.4.2 Name, identify, and safely use new tools.</p> <p>GTE.4.3 Demonstrate proper care and storage of tools.</p> <p>GTE.4.4 Practice various tool techniques with increasing independence.</p> <p>New Tools: Round point shovel, worm box</p>	<p>GTE.5.1 Use tools introduced in previous grades independently.</p> <p>GTE.5.2 Name, identify, and safely use new tools.</p> <p>GTE.5.3 Investigate different uses and techniques of tools to complete various tasks.</p> <p>GTE.5.4 Practice various tool techniques with increasing independence.</p> <p>New Tools: Wheelbarrow, hose and nozzle, drip watering systems</p>
Soil (S)	<p>S.3.1 Describe and/or create a planting medium for different types of gardens</p>	<p>S.4.1 Identify and describe structure and function of organisms living in soil.</p> <p>S.4.2 Describe the role of fungi, bacteria, and invertebrates in soil.</p>	<p>S.5.1 Describe the various activities that create soil.</p>

TOPIC	GRADE 3	GRADE 4	GRADE 5
Weather and Seasons, Climate and Geography (WSCG)	<p>WSCG.3.1 Define and map the bioregions of your state</p>	<p>WSCG.4.1 Understand and describe how geographic place and cultural significance might influence what and when foods grow in your location.</p> <p>WSCG.4.2 Understand the effect of latitude on foods from various places around the world.</p>	<p>WSCG.5.1 Describe the effect of human migration on seeds and plants.</p> <p>WSCG.5.2 Map the geographic, cultural, and historical influences that shape what is grown (maritime climate, altitude, soil composition, climate) in your bioregion.</p>
Plants (P)	<p>P3.1 Describe structures and functions of flowers.</p> <p>P3.2 Create an experiment (inquiry, observe, collect data, and make conclusions) to test various growing environments for plants.</p>	<p>P4.1 Describe structures and functions of seeds.</p> <p>P4.2 Explain photosynthesis.</p> <p>P4.3 Know how and when to plant seeds.</p> <p>P4.4 Understand signs of distress or poor health in plants and create solutions.</p>	<p>P5.1 Understand how to identify and cultivate genetic traits in plants.</p>
Garden and Food Systems (GFS)	<p>GFS.3.1 Understand how to increase the beneficial insects in a garden environment.</p> <p>GFS.3.2 Design a plan to support and increase beneficial insects in the garden.</p> <p>GFS.3.3 Describe a food web.</p> <p>GFS.3.4 Define local food system.</p>	<p>GFS.4.1 Identify pests in the garden.</p> <p>GFS.4.2 Create a plan to mitigate pests in the garden.</p> <p>GFS.4.3 Define a regional food system.</p>	<p>GFS.5.1 Describe the roles beneficial insects and pests play in the garden.</p> <p>GFS.5.2 Understand the relationship between weather patterns and watering in garden.</p> <p>GFS.5.3 Demonstrate ability to identify and map a food system; include a historical or cultural perspective.</p>

GRADES 6-8			
TOPIC	GRADE 6	GRADE 7	GRADE 8
Garden Planning and Maintenance (GPM)	<p>GPM.6.1 Understand and apply basic garden math skills to the design of a garden.</p> <p>GPM.6.2 Demonstrate understanding of compost and/or vermi-culture system.</p>	<p>GPM.7.1 Understand and apply basic garden math skills to the design and planning of school/ community gardens.</p>	<p>GPM.8.1 Identify and utilize community resources available to support business project.</p> <p>GPM.8.2 Resolve watering, weeding, harvest and distribution challenges that exist in a garden.</p>
Garden Tools and Equipment (GTE)	<p>GTE.6.1 Use tools introduced in previous grades independently.</p> <p>GTE.6.2 Name, identify, and safely use new tools.</p> <p>GTE.6.3 Match tools to tasks and explain selection process.</p> <p>GTE.6.4 Demonstrate proper and safe use of tools and equipment with independence.</p> <p>New Tools: Stirrup hoe, four-tined cultivator, digging fork, rake, leaf rake, pruning shears/scissors</p>	<p>GTE.7.1 Use tools introduced in previous grades independently.</p> <p>GTE.7.2 Name, identify, and safely use new tools.</p> <p>GTE.7.3 Match tools to tasks and explain selection process.</p> <p>GTE.7.4 Determine different uses and techniques of tools to complete various tasks.</p> <p>GTE.7.5 Model gardening independently.</p> <p>New Tools: Grafting and propagation tools</p>	<p>GTE.8.1 Use tools introduced in previous grades independently.</p> <p>GTE.8.2 Correlate measuring tools and mathematical functions.</p> <p>GTE.8.3 Investigate different uses and techniques of garden tools to complete various tasks and solve problems.</p>
Soil (S)	<p>S.6.1 Identify soil compositions.</p> <p>S.6.2 Understand how to assess and mitigate soil.</p> <p>S.6.3 Build a balanced soil medium.</p>	<p>S.7.1 Identify soil compositions in the school environment.</p> <p>S.7.2 Recognize and classify various soils types.</p>	<p>S.8.1 Describe soil components and explain the proportional relationships.</p>
Weather and Seasons, Climate and Geography (WSCG)	<p>WSCG.6.1 Describe the growing climate and seasons of your school/home garden.</p> <p>WSCG.6.2 Compare and contrast your climate and a climate in a different geographic location in terms of growing food.</p> <p>WSCG.6.3 Describe the impact of seasonal weather patterns on edible gardens.</p>	<p>WSCG.7.1 Understand and identify microclimates around your school, what foods grow best in each one, and why.</p> <p>WSCG.7.2 Demonstrate knowledge of seasonal gardening.</p>	<p>WSCG.8.1 Utilize knowledge of weather and seasonal changes to create a 12-month planting calendar.</p>

TOPIC	GRADE 6	GRADE 7	GRADE 8
Business Planning (BP)	<p>BP.6.1 Compare and contrast a home garden to a school garden.</p> <p>BP.6.2 Create a garden planting list.</p> <p>BP.6.3 Create project expense list.</p>	<p>BP.7.1 Demonstrate the ability to create a food business project.</p> <p>BP.7.2 Create a garden planting list.</p> <p>BP.7.3 Create a basic income/expense model.</p>	<p>BP.8.1 Demonstrate the ability to run a food business project.</p> <p>BP.8.2 Understand Profit/Loss for project.</p> <p>BP.8.3 Create a marketing, outreach, communications plan for project.</p>
Plants (P)	<p>P.6.1 Interpret directions on seed packets.</p> <p>P.6.2 Describe seed germination.</p> <p>P.6.3 Understand best harvest practices for food grown in garden.</p>	<p>P.7.1 Describe and perform grafting, slips, and cutting propagation methods.</p> <p>P.7.2 Explain photosynthesis.</p>	<p>P.8.1 Identify and describe structure and function of edible plants.</p> <p>P.8.2 Identify and describe full cycle of a diversity of plants in the garden.</p>
Garden and Food Systems (GFS)	<p>GFS.6.1 Identify and create attraction strategies for beneficial insects in the home or school garden.</p> <p>GFS.6.2 Understand what foods grow best in your specific geographic location and why.</p> <p>GFS.6.3 Compare and contrast your geographic location to various other locations around in the world and understand how seasonality influences foods in other cultures</p> <p>GFS.6.4 Describe producer and consumer in the garden environment.</p> <p>GFS.6.5 Define local and seasonal eating.</p>	<p>GFS.7.1 Identify beneficial and non-beneficial insects in the soil and garden environments and create management strategies.</p> <p>GFS.7.2 Evaluate the interdependence of organisms in the garden environment.</p> <p>GFS.7.3 Describe the relationship between producers and consumers</p>	<p>GFS.8.1 Understand physical changes in the garden environment.</p> <p>GFS.8.2 Apply basic home and garden economics to the garden system.</p> <p>GFS.8.3 Describe and characterize the differences between foods grown locally and those imported from other parts of the United States and the world.</p>

GRADES K-8 GARDEN TOOLS & EQUIPMENT		
TOPIC	GRADE	GRADE 7
GTE	K	<p>GTE.K.1 Name, identify, and safely use new tools.</p> <p>GTE.K.2 Match new tools to tasks.</p> <p>GTE.K.3 State how to properly care for new tools.</p> <p>GTE.K.4 Describe the purpose of a new tool.</p> <p>New Tools: Hands, hand trowel, harvest basket and 5-gallon bucket</p>
GTE	1	<p>GTE.1.1 Use tools introduced in previous grades independently.</p> <p>GTE.1.2 Name, identify, and safely use new tools.</p> <p>GTE.1.3 Match tools to tasks.</p> <p>GTE.1.4 State how to properly care for tools.</p> <p>New Tools: Garden string, hand weeding tool, cleaning brush, and watering can</p>
GTE	2	<p>GTE.2.1 Use tools introduced in previous grades independently.</p> <p>GTE.2.2 Name, identify, and safely use new tools.</p> <p>GTE.2.3 Select the correct tool to perform and complete a task with minimal instructor input.</p> <p>GTE.2.4 Explain the reason for selecting a tool for a task.</p> <p>New Tools: Spading fork, hand fork, rain gauge, and air thermometer</p>
GTE	3	<p>GTE.3.1 Use tools introduced in previous grades independently.</p> <p>GTE.3.2 Name, identify, and safely use new tools.</p> <p>GTE.3.3 Select the correct tool to perform and complete a task with minimal instructor input.</p> <p>GTE.3.4 Explain form and function of tools in garden environment.</p> <p>GTE.3.5 Apply skills to solutions in garden environment.</p> <p>New Tools: Staking and trellising equipment, hoe, measuring tape</p>

TOPIC	GRADE 6	TOOLS & EQUIPMENT
GTE	4	<p>GTE.4.1 Use tools introduced in previous grades independently.</p> <p>GTE.4.2 Name, identify, and safely use new tools.</p> <p>GTE.4.3 Demonstrate proper care and storage of tools.</p> <p>GTE.4.4 Practice various tool techniques with increasing independence.</p> <p>New Tools: Round point shovel, worm box</p>
GTE	5	<p>GTE.5.1 Use tools introduced in previous grades independently.</p> <p>GTE.5.2 Name, identify, and safely use new tools.</p> <p>GTE.5.3 Investigate different uses and techniques of tools to complete various tasks.</p> <p>GTE.5.4 Practice various tool techniques with increasing independence.</p> <p>New Tools: Wheelbarrow, hose and nozzle, drip watering systems</p>
GTE	6	<p>GTE.6.1 Use tools introduced in previous grades independently.</p> <p>GTE.6.2 Name, identify, and safely use new tools.</p> <p>GTE.6.3 Match tools to tasks and explain selection process.</p> <p>GTE.6.4 Demonstrate proper and safe use of tools and equipment with independence.</p> <p>New Tools: Stirrup hoe, four-tined cultivator, digging fork, rake, leaf rake, pruning shears/scissors</p>
GTE	7	<p>GTE.7.1 Use tools introduced in previous grades independently.</p> <p>GTE.7.2 Name, identify, and safely use new tools.</p> <p>GTE.7.3 Match tools to tasks and explain selection process.</p> <p>GTE.7.4 Determine different uses and techniques of tools to complete various tasks.</p> <p>GTE.7.5 Model gardening independently.</p> <p>New Tools: Grafting and propagation tools, soil thermometer</p>
GTE	8	<p>GTE.8.1 Use tools introduced in previous grades independently.</p> <p>GTE.8.2 Correlate measuring tools and mathematical functions.</p> <p>GTE.8.3 Investigate different uses and techniques of garden tools to complete various tasks and solve problems.</p>

GRADES K-8 GARDEN BEHAVIORS		
TOPIC	GRADE	BEHAVIORS
GB.1	K-8	Identify where the garden is located, how to enter and exit the garden respectfully and safely.
GB.2	K-8	Recognize the garden is a learning environment.
GB.3	K-8	Use the five senses and when present in the garden environment.
GB.4	K-8	Apply best food safety practices when harvesting, washing, and preparing fruits and vegetables from the garden.
GB.5	K-8	Manage garden waste (weeds, end of season plants, etc.)