

SCIENCE GRADE LEVEL 2	YEAR AT A GLANCE Student Learning Outcomes by Unit 2016-2017
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UNIT: New Plants Dates:	Overarching/general themes: Structures/functions of flowering plants; requirements for life/growth; plant growth and development; life cycle; pollination; propagation				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="background-color: #cccccc;">Networks A & B - 12/7 to 3/14</td></tr> <tr><td style="background-color: #cccccc;">Networks C & F - 9/8 to 11/30</td></tr> <tr><td style="background-color: #cccccc;">Networks D & E - 3/21 to 6/13</td></tr> </table>	Networks A & B - 12/7 to 3/14	Networks C & F - 9/8 to 11/30	Networks D & E - 3/21 to 6/13	Textual References New Plants Teacher's Guide (FOSS)	To Demonstrate Proficiency by the End of the Unit Students Will:
Networks A & B - 12/7 to 3/14					
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6 Sessions, 2-3 weeks	Investigation 1 Brassica Seeds	<ul style="list-style-type: none"> • Observe the growth of seeds and identify the parts of growing plants as they develop. Record and communicate observations in words and drawings in notebooks. (LS-1) • Compare the development of different Brassica plants to identify patterns of growth. (LS-1) • Write an explanation that provides a description of plant structures and functions and what plants need to grow and develop. (LS-8) • Write a narrative about the life cycle of a plant, providing descriptive details and clear event sequences, including the role of bees and other insects. Use illustrations made from observations to clarify the text. (LS-3, LS-8) 			
6 Sessions, 2-3 weeks	Investigation 2 Grass and Grain Seeds	<ul style="list-style-type: none"> • Observe plant development. Record and communicate observations in words and drawings. (LS-1) • Compare the development of different kinds of plants. Write a statement of the similarities and differences. (LS-4) • Organize representations of lawns to show the sequence of events during growth and mowing. Write a narrative that provides a clear event sequence. (LS-3) • Describe/explain observations and inferences made from the investigation, orally and in writing, e.g., seeds are alive, need water and light to grow into new plants, some plants die and some continue to grow after mowing, some foods come from grain (seeds); plants have different structures that function in growth and survival. (LS-7) 			
5 Sessions, 2-3 weeks	Investigation 3 Stems	<ul style="list-style-type: none"> • Observe the development of roots on stems. Record and communicate observations in words and drawings. (LS-1) • Compare the development of cuttings from different plants. Write a statement of similarities and differences. Use illustrations where needed for clarification. (LS-7) • Identify evidence that a cutting will develop into a new plant. Make a claim that is supported by that evidence. (LS-4) • Describe/explain observations and inferences made from the investigation, orally and in writing, e.g., plants need water and light to grow; leaves, twigs, and roots develop on stems at the nodes; new plants can grow from stems of mature plants; potatoes are underground stems. (LS-1) 			
5 Sessions, 2-3 weeks	Investigation 4 Bulbs and Roots	<ul style="list-style-type: none"> • Observe the growth of roots and bulbs. Record and share observations in words and drawings. (LS-1) • Compare the development of different parts of plants. Write a statement of similarities and differences. (LS-7) • Describe/explain observations and inferences made from the investigation, orally and in writing, e.g., bulbs are alive; they need water to start growing; some parts of roots grow into new plants. (LS-1) • Close Reading: FOSS Science Stories, <i>Animal Teeth</i> 			

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UNIT: Pebbles, Sand & Silt Dates:		Overarching/general themes: Earth materials; pebble, gravel, sand, silt & clay; properties of earth materials; humus and rocks; particle size											
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6 Sessions, 2-3 weeks	Investigations 1 First Rocks	<ul style="list-style-type: none"> • Observe several kinds of rocks, recording observations in a notebook. (routine writing) (ES-1) • Compare properties of different rocks. Write a statement about the similarities and differences in the rocks. (ES-1) • Sort rocks in different ways. Describe the properties used to sort them (color, hardness, shape, texture, and size). • Observe rocks interacting with each other and with water. (PS-1) • Recognize that rocks are all around us and are the solid material of the earth. (TE-1.1) 											
6 Sessions, 2-3 weeks	Investigation 2 River Rocks	<ul style="list-style-type: none"> • Observe properties of pebbles, gravel, sand, silt, and clay particles. Record observations in a notebook. (routine writing) (TE-1.1) • Investigate and sort earth materials by particle size using screens and water. Write an explanation about how earth materials can be categorized by size, including the five sizes of rocks, from smallest to largest are clay, silt, sand, gravel, and pebbles. (PS-1) • Observe the properties of clay particles when dry and when wet. Write a statement of the similarities and differences. (PS-1) 											
5 Sessions, 2-3 weeks	Investigation 3 Using Rocks	<ul style="list-style-type: none"> • Observe and compare how earth materials are used in a variety of human constructions. (TE-1.2) • Write a narrative, using observations from investigations and informational texts, describing one of the ways we use earth materials and how the properties of the material made it suitable for that specific use, e.g., different grades of sandpaper; how a matrix binds sand particles in a sand sculpture; clay to make bricks; clay to create jewelry or beads. (TE-1.2) 											
5 Sessions, 2-3 weeks	Investigation 4 Soil Explorations	<ul style="list-style-type: none"> • Observe the ingredients that make up soil, then separate and sort them. Record observations in a notebook. (ES-1) • Observe and record the results of shaking soil and water in a vial. Write a description. Illustrate as needed for clarity. • Compare soil samples from different locations. Write a statement of the similarities and differences. (ES-1) • Describe/explain observations and inferences made from the investigation, orally and in writing, e.g., soil is a mixture; soil varies from place to place; they differ in their abilities to support plants; they can be composed of humus and different amounts and sizes of rocks. (ES-1) • Close Reading: FOSS Science Stories, <i>What is in Soil?</i> 											

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UNIT: Insects Dates:	Overarching/general themes: Animal/insect structures, functions, and behaviors; life cycle; head, thorax, abdomen; metamorphosis and its stages						
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6 Sessions, 2-3 weeks	Investigation 1 Mealworms	<ul style="list-style-type: none"> • Observe mealworm larvae, pupae, and adults over time. Describe and record changes in mealworm structure and behavior over time. (LS-1, LS-2) • Write a statement that describes what insects are and what they need to grow and develop. (LS-1) • Write a narrative about the life cycle of the beetle, providing descriptive details and clear event sequences. Use illustrations made from observations to clarify the text. (LS-3) • Close Reading: FOSS Science Stories, <i>Environment</i> (LS-8) 					
5 Sessions, 2-3 weeks	Investigation 2 Waxworms	<ul style="list-style-type: none"> • Observe waxworm larvae and compare them to mealworm larvae. Write a statement about similarities and differences. (LS-1, LS-2) • Describe and record changes over time in a notebook, using words and drawings. (LS-7) • Describe/explain observations and inferences made from the investigation, orally and in writing, e.g., insects have similar structures and behaviors, larvae produce silk. (LS-1) 					
6 Sessions, 2-3 weeks	Investigation 3 Milkweed Bugs	<ul style="list-style-type: none"> • Observe the sequence of changes that bugs go through as they mature into adults. Write a narrative that provides a clear event sequence. (LS-3, LS-4) • Observe, describe, and communicate the structures, patterns, and behaviors of insects. (LS-1) • Describe/explain observations and inferences made from the investigation, orally and in writing, e.g., insects hatch from eggs, have three body parts, have different structures for eating different kinds of food, some insects go through simple metamorphosis (egg, nymph, adult). (LS-3, LS-8) 					
5 Sessions, 2-3 weeks	Investigation 4 Butterflies	<ul style="list-style-type: none"> • Observe structures and behavior of a butterfly. Record observations in a notebook. (routine writing) (LS-1) • Compare the structures and behavior of the butterfly to other insects. Write a statement about similarities and differences. (LS-1, LS-2) • Describe and record changes observed of insects over time. Write a narrative that provides a clear event sequence. Illustrate with drawings from observations. (LS-3, LS-7, LS-6) • Describe/explain observations and inferences made from the investigation, orally and in writing, e.g., insect larvae and adults have structures in common, life cycle of the butterfly is egg, larva, pupa, and adult (produces eggs). (LS-3, LS-1) 					