

AMHERST PUBLIC AND PELHAM ELEMENTARY SCHOOLS – CURRICULUM MAP

ELEMENTARY SCIENCE GRADE: 4	UNIT TITLE: STORIES IN STONE
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SECTION	LENGTH	CONTENT	SKILLS	METHODS OF ASSESSMENT	FRAMEWORK STRANDS & STANDARDS PreK–2
Properties of rocks and minerals	2 lessons	<ul style="list-style-type: none"> The earth’s crust is made of rock. Rocks can be sorted by their properties. The properties of rock as material are somewhat different from the properties of a rock as an object. 	<ul style="list-style-type: none"> Sort and classify rocks by observable properties. Differentiate between objects and materials. 	<ul style="list-style-type: none"> Teacher observation checklist 	PS 1 ESS 1 ESS 2 ESS 3.
Crystal structure	2 lessons	<ul style="list-style-type: none"> Minerals are pure inorganic substances with a crystal structure. 	<ul style="list-style-type: none"> Predict, observe, describe and record results of experiments. 	<ul style="list-style-type: none"> Student worksheet Student product 	ESS 1 ESS 2.
Rock formation	4 lessons	<ul style="list-style-type: none"> The categories igneous sedimentary and metamorphic identify the way a rock was formed. 	<ul style="list-style-type: none"> Predict, observe, describe and record results of experiments. Draw conclusions from experimental results. Use evidence to support conclusions. 	<ul style="list-style-type: none"> Student worksheets Teacher observation checklist Quiz 	ESS 1 ESS 3. ESS 4 ESS 5.
Rock cycle	2 lessons	<ul style="list-style-type: none"> Rocks change on the surface of earth by the process of weathering. Rocks change beneath the surface of earth by heat and pressure. 	<ul style="list-style-type: none"> Construct models to understand events. 	<ul style="list-style-type: none"> Teacher observation checklist Written response rubric 	ESS 12.
Rock and mineral testing	2 lessons	<ul style="list-style-type: none"> Geologists use specific tests to identify minerals and rocks. 	<ul style="list-style-type: none"> Conduct standard mineral tests to identify attributes. 	<ul style="list-style-type: none"> Student worksheets 	ESS 2.
Fossils	1 lesson 1 museum visit	<ul style="list-style-type: none"> The history of life is preserved in rock. 	<ul style="list-style-type: none"> Construct models to understand events. 	<ul style="list-style-type: none"> Student worksheets Teacher observation checklist End of Unit assessment 	Gr. PreK-2 ESS 5

Massachusetts Science and Technology/Engineering Curriculum Framework, October 2006; Grades 3-5

Earth and Space Science (ESS)

ESS 1 Give a simple explanation of what a mineral is and some examples, e.g., quartz, mica.

ESS 2 Identify the physical properties of minerals (hardness, color, luster, cleavage, and streak), and explain how minerals can be tested for these different physical properties.

ESS 3 Identify the three categories of rocks (metamorphic, igneous, and sedimentary) based on how they are formed, and explain the natural and physical processes that create these rocks.

ESS 4 Explain and give examples of the ways in which soil is formed (the weathering of rock by water and wind and from the decomposition of plant and animal remains).

ESS 5 Recognize and discuss the different properties of soil, including color, texture (size of particles), the ability to retain water, and the ability to support the growth of plants.

ESS 12 Give examples of how the surface of the earth changes due to slow processes such as erosion and weathering, and rapid processes such as landslides, volcanic eruptions, and earthquakes.

Grades Prek-2

ESS 5 Recognize that fossils provide us with information about living things that inhabited the earth years ago.

Physical Sciences (PS)

PS 1 Sort objects by observable properties such as size, shape, color, weight, and texture.