

Strand: Science	Unit: Rock Detective	Grade Level: 03	Earth Science
Objective: Student will ...	Learning Results Performance Indicators & Code		Instructional Resources
...observe and describe rock samples.	<b>F3</b> <b>J1</b> <b>J2</b> <b>J3</b>	<ul style="list-style-type: none"> <li>• Describe differences among rocks, minerals, and soils.</li> <li>• Make accurate observations using appropriate tools and units of measure.</li> <li>• Conduct scientific investigations: make observations, collect and analyze data, and do experiments.</li> <li>• Use results in a purposeful way: design fair tests, make predictions based on observed patterns, and interpret data to make further predictions.</li> </ul>	See FOSS module TM guide for instructional activities, strategies, and assessments.
...describe fossils and explain how they formed.	<b>D2</b>	<ul style="list-style-type: none"> <li>• Describe how fossils formed.</li> </ul>	
...explain how the surface of the earth has changed due to plate movements.	<b>F1</b>	<ul style="list-style-type: none"> <li>• Describe the change in position of the continents over time.</li> </ul>	
...communicate ideas about rock samples.	<b>L1</b> <b>M1</b>	<ul style="list-style-type: none"> <li>• Record results of experiments or activities and summarize and communicate what has been learned.</li> <li>• Explore how cultures have found different technological solutions to deal with similar needs or problems.</li> </ul>	

Strand: Science	Unit: Earth Materials	Grade Level: 03	Earth Science
Objective: Student will ...	Learning Results Performance Indicators & Code		Instructional Resources
...research and identify the characteristics of rocks and minerals.	F3	<ul style="list-style-type: none"> <li>Describe differences among rocks, minerals, and soils.</li> </ul>	See FOSS module (Earth Materials) TM guide for instructional activities, strategies, and assessments.
...observe and describe the properties of many rocks.	F3	<ul style="list-style-type: none"> <li>Describe differences among rocks, minerals, and soils.</li> </ul>	<b>Instructional Activities:</b> <ul style="list-style-type: none"> <li>using FOSS materials, collect rock samples</li> <li>visit playgrounds, nearby vacant lots, parks, ponds, and mountains</li> <li>drawings/illustrations</li> <li>journals</li> <li>use of instruments (thermometers, yard/meter sticks, etc.)</li> <li>record observations and measurements</li> </ul>
...see that rocks are made of a single substance, but most are made of several substances.	F3	<ul style="list-style-type: none"> <li>Describe differences among rocks, minerals, and soils.</li> </ul>	
...be encouraged to observe closely objects and materials in their environment, note properties, distinguish one from another, and develop their own explanations for how things become the way they are.	F3	<ul style="list-style-type: none"> <li>Describe differences among rocks, minerals, and soils.</li> </ul>	
...visit and revisit study sites regularly to develop an understanding that earth's surface is constantly changing.	F2	<ul style="list-style-type: none"> <li>Demonstrate an understanding that many things about the earth (e.g., climate) occur in cycles that vary in length and frequency.</li> </ul>	

Strand: Science	Unit: Earth Materials, continued:	Grade Level: 03	Earth Science
Objective: Student will ...	Learning Results Performance Indicators & Code		Instructional Resources
...begin to learn some of the surface features of the earth and the earth's relation to the sun, moon, and other planets.	F1	<ul style="list-style-type: none"> <li>describe the change in position of the continents over time.</li> </ul>	<b>Instructional Activities:</b> <ul style="list-style-type: none"> <li>use material related films and computer simulations</li> <li>host a visiting planetarium</li> <li>field trip to a planetarium</li> <li>telescopic observations</li> <li>students working in small groups to construct physical models, explaining what the model represents</li> </ul>
...conduct investigations to learn the connection between liquid and solid forms, recognizing that water can also be a gas.	F4 J2	<ul style="list-style-type: none"> <li>Illustrate how water and other substances go through a cyclic process of change in the environment.</li> <li>Conduct scientific investigations: make observations, collect and analyze data, and do experiments.</li> </ul>	

Strand: Science	Unit: Objects in the Sky	Grade Level: 03	Earth Science
Objective: Student will ...	Learning Results Performance Indicators & Code		Instructional Resources
...begin to an inventory of the variety of things in the universe.	<b>G1</b>	<ul style="list-style-type: none"> <li>• Illustrate the relative positions of the sun, moon, and planets.</li> </ul>	<b>Instructional Activities:</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> observations</li> <li><input type="checkbox"/> discussions</li> <li><input type="checkbox"/> use of drawings and photographs</li> <li><input type="checkbox"/> observation with binoculars and/or telescope</li> <li><input type="checkbox"/> visiting planetariums</li> <li><input type="checkbox"/> direct observation</li> <li><input type="checkbox"/> picture books</li> <li><input type="checkbox"/> internet sites</li> <li><input type="checkbox"/> videos and filmstrips</li> </ul>
...differentiate between the moon and the stars by appearance and motion.	<b>G1</b>	<ul style="list-style-type: none"> <li>• Illustrate the relative positions of the sun, moon, and planets.</li> </ul>	
...observe the moon, stars, and planets to distinguish the variety in their sizes.	<b>G4</b>	<ul style="list-style-type: none"> <li>• Explore the relationship between the earth and its moon.</li> </ul>	
...learn early that a large light source at a great distance looks like a small light source that is much closer.	<b>G1</b>	<ul style="list-style-type: none"> <li>• Illustrate the relative positions of the sun, moon, and planets.</li> </ul>	
...be able to explain that the earth is one of several planets that orbit the sun, and the moon orbits the earth.	<b>G4</b>	<ul style="list-style-type: none"> <li>• Explore the relationship between the earth and its moon.</li> </ul>	
...understand that stars are like the sun, some being smaller and some larger, but all so far away that they look like points of light.	<b>G4</b>	<ul style="list-style-type: none"> <li>• Explore the relationship between the earth and its moon.</li> </ul>	

Strand: Science	Unit: Sound	Grade Level: 03	Earth Science
Objective: Student will ...	Learning Results Performance Indicators & Code		Instructional Resources
...recognize and identify objects by the distinct sounds that they make when dropped.	<b>H1</b> <b>H2</b>	<ul style="list-style-type: none"> <li>• Identify different forms of energy (e.g., light, sound, heat).</li> <li>• Explain ways different forms of energy can be produced.</li> </ul>	See FOSS module, strategies, and assessments.
...demonstrate that sounds have identifiable characteristics and can convey information.	<b>H1</b> <b>H2</b>	<ul style="list-style-type: none"> <li>• Identify different forms of energy (e.g., light, sound, heat).</li> <li>• Explain ways different forms of energy can be produced.</li> </ul>	
...demonstrate that sound is caused by vibrations.	<b>K3</b>	<ul style="list-style-type: none"> <li>• Draw conclusions about observations.</li> </ul>	
...compare high-, low-, and medium-pitched sounds.	<b>K3</b>	<ul style="list-style-type: none"> <li>• Draw conclusions about observations.</li> </ul>	
...observe that sound travels through solids, water, and air.	<b>H2</b>	<ul style="list-style-type: none"> <li>• Explain ways different forms of energy can be produced.</li> </ul>	
...compare how sound travels through different mediums.	<b>I4</b>	<ul style="list-style-type: none"> <li>• Make and/or use sketches, tables, graphs, physical representations and manipulatives to explain procedures and ideas.</li> </ul>	

Strand: Science	Unit: Pond Life	Grade Level: 03	Life Science
Objective: Students will ...	Learning Results Performance Indicators & Code		Instructional Resources
<p>...observe and describe the various components and interrelationships that make up a pond habitat.</p> <p>...describe how ponds are created</p>	<b>B4</b>	Investigate the connection between major living and non-living components of a local ecosystem.	Field trips to local ponds. Texts, library resources, videos, internet (websites), varying examples of still life, and other visuals.
<p>...be able to identify various living things in and around the pond</p>	<b>B4</b> <b>A3</b>	Investigate the connection between living and non-living components of a local ecosystem. Describe the different living things within a given habitat.	Field trips to local ponds. Assimulate a pond to the classroom. Samples of pond water, an aquarium and stages of a frog from pollywogs to tadpoles is one example.
<p>...observe and describe one or two life cycles of plants or animals within the pond environment. (i.e. muskrats, beavers, frogs, algae and/or waterlilies)</p>	<b>K1</b> <b>A4</b>	Give alternative explanations for observed phenomena. Compare and contrast the life cycles, behavior and structure of different organisms.	Microscopes and magnifiers.  Journals-above mentioned, science magazines and other library resources.
<p>...recognize the importance of muddy ponds.</p> <p>...compare/contrast the degree of mud/water mixture between two or more ponds.</p> <p>...be able to recognize the effects and changes that seasons have on our ponds and pond life.</p>	<b>K3</b>  <b>K3</b>  <b>K4</b>	Draw conclusions about observations.  Draw conclusions about observations.  Use various types of evidence (e.g., logical, quantitative) to support a claim.	Field trips to local ponds, journals, library resources, microscopes pond samples and still life forms.

Strand: Science	Unit: Pond Life continued	Grade Level: 03	Life Science
Objective: Students will ...	Learning Results Performance Indicators & Code		Instructional Resources
... describe the relationship between plant and animal life that surrounds the pond (watersheds-important components to the relationship of pond life).	<b>B1</b>	Describe a food web and the relationships within a given ecosystem.	Journals, reference material, above mentioned and etc.
... be able to identify, and classify plants and animals based on observable characteristics.	<b>A2</b>	Design and describe a classification system for organisms.	Chart paper, completed posters and above mentioned.
... be able to record and identify sights, sounds and smells of insects and animals from the pond (i.e. crickets, frogs, birds, fish, etc.).	<b>J2</b>	Conduct scientific investigations, make observations, collect and analyze data, do experiments.	Field trips to local ponds Pictures/drawings Sound recordings Labeling devise (Journals) Above mentioned for additional ideas and suggestions.
<p>... observe how pond life animals react to humans around them.</p> <p>... describe how pond animals positively and negatively effect the ecosystem of a pond.</p> <p>... explore how humans impact the pond ecosystem.</p>	<b>B4</b>	Investigate the connection between major living and non-living components of a local ecosystem.	<p>Field trips to local ponds, journals</p> <p>Journal conclusions, articles, reports, other library resources, internet , etc.</p> <p>Speakers, presenters (Department of Ecology at UMO, State Department, local natural resource enthusiasts.</p>

