# Unit Summary

| | Cluster 1: Describing Rocks (Lessons 1-3 and 11) | Cluster 2: Rocks and Minerals (Lessons 4-7) |
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| **Overview** | Children consider what makes a rock a rock as they sort rocks from non-rock objects. They focus on the properties of rocks as they carefully observe, describe, and sort them, and use a field guide to find out more about rocks in the class collection. Children are introduced to the three main groups of rocks (igneous, sedimentary, and metamorphic) and learn about the earth processes that form each. To culminate, they choose a special rock to investigate and create a book about their rock. | Children discover that rocks are made of minerals as they look for minerals in a piece of granite. They learn about some of the properties geologists use to describe minerals and perform simple tests to determine mineral hardness and streak. They conduct a mineral scavenger hunt to discover that minerals are found in many of the products we depend on. |
| **Science Content** | • Rocks have distinct properties.<br>• The earth continuously forms and changes rock.<br>• Some of a rock's properties are a result of how it was formed.<br>• Geologists classify rocks into three major groups (igneous, sedimentary, and metamorphic), based on how they were formed.<br>• Field guides are used to identify rocks and learn more about their properties. | • Rocks are made of minerals.<br>• Some of a rock's properties are a result of the properties of the minerals it is made of.<br>• Minerals have distinct properties that can be observed and tested.<br>• Minerals provide many of the resources we use. |
| **Science Center** | • Sort rocks from non-rock objects.<br>• Describe and measure rocks in the class collection.<br>• Play "Guess My Rock."<br>• Use field guides to identify rocks and prepare rock information cards.<br>• Use clues to sort the class rock collection according to rock type.<br>• Look through each other's rock books. | • Sort rocks from minerals.<br>• Describe mineral samples using observation, streak tests, scratch tests, and field guides.<br>• Play "Guess My Mineral."<br>• Continue the mineral scavenger hunt. |
| **Family Links** | • Go on a family rock hunt to obtain rocks for the class collection.<br>• Search for a special rock to study and write a book about. | • Conduct a granite scavenger hunt in the community.<br>• Continue the mineral scavenger hunt at home. |
| **Further Science Explorations** | • Search for rocks to add to the class rock collection.<br>• Host a geologist guest speaker.<br>• Explore how various animals use rocks.<br>• Play "Guess My Rock."<br>• Take a trip to a road cut. | • Use the Mohs' Hardness Scale to compare the hardness of several minerals.<br>• Line up to create a virtual Mohs' Hardness Scale.<br>• Learn about pyrite, or "fool's gold."<br>• Play "Guess My Mineral."<br>• Play "Is it a Mineral?"<br>• Grow mineral crystals from powdered minerals.<br>• "Mine" for raisins in a muffin. |
| **Cross-Curricular Extensions** | **Language Arts:** Share fiction and non-fiction books about rocks. Create a class rock field guide. Add glossaries, dedications, and captions to individual rock books.<br>**Mathematics:** Determine the length and width of rocks using grid paper. Graph the maximum temperature reached by each of Earth's layers.<br>**Art:** Create miniature rock arrangements. Make rock texture collages. Create cover illustrations and decorative borders for individual rock books.<br>**Social Studies:** Discuss and compare the use of rocks in ancient cultures and how they are used today. | **Language Arts:** Create a class mineral field guide.<br>**Mathematics:** Make edible "granite" rocks in specific proportions. Graph the results of the mineral scavenger hunt.<br>**Art:** Carve a drywall relief sculpture.<br>**Social Studies:** Identify state rocks, monuments, and mountain ranges. Discuss the history of Mount Rushmore. Research the history of gemstones and precious metals. |

| Cluster 3: Fossils (Lessons 8-10) | |
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| Children compare fossils to similar present-day items to discover that fossils are made of rock. They observe that fossils retain the shape and texture, but not the living material, of organisms that died long ago. Children examine three common types of fossils (cast, mold, and petrified), and make classroom models of each to get a sense of how fossils form in nature. | **Overview** |
| • Fossils are made of rock and contain evidence of ancient life.<br>• The living material in most fossils has been replaced by rock.<br>• Fossils preserve the shape and texture of ancient organisms.<br>• There are different types of fossils.<br>• Different types of fossils form in different ways. | **Science Content** |
| • Examine and compare a variety of fossils.<br>• Simulate mold and cast fossils in wet sand, rock dough, and modeling clay.<br>• Look for mineral crystals in an assortment of model "petrified bones."<br>• Sketch interpretations of what an organism looked like based on a picture of its fossilized remains. | **Science Center** |
| • Make fossils at home using Jell-O™, "rock dough," and "rock goo." | **Family Links** |
| • Use a timeline to develop a sense of the relative ages of butterflies, humans, trees, and rocks.<br>• Host a paleontologist guest speaker.<br>• Visit a museum with a fossil collection.<br>• Try to excavate "fossils" from a mock "fossil quarry." | **Further Science Explorations** |
| **Language Arts:** Share stories about people or things that were turned into stone and books about dinosaur footprints and paleontology. Write a short story about an ancient organism and its eventual fossilization.<br>**Mathematics:** Relate mold and cast fossils to "negative" and "positive" geometric shapes.<br>**Art:** Paint and decorate model fossils and hand imprints. | **Cross-Curricular Extensions** |