**Rocks**

**Description:**

In addition to there being many different kinds of minerals, there are many different kinds of rocks. While this might seem reasonable for sedimentary and metamorphic rocks (after all, if you start with different kinds of sediments or bedrock, you will end up with different sedimentary or metamorphic rocks), why should this be the case for igneous rocks? The reason is that minerals crystallize and melt at different temperatures. This simple fact has given rise to a wide diversity of igneous rock types. When the initially molten Earth began to cool and crystallize, there wasn’t just one kind of igneous rock formed—there was a whole range.

**Textbook Chapters:**

**3**. Rocks

**Section 1: The Rock Cycle**

**Section 2: Igneous Rocks**

**Section 3: Sedimentary Rocks**

**Section 4: Metamorphic Rocks**

**State Standards:**

E.S. 1.22 Compare the properties of rocks and minerals and their uses.

E.S. 1.27 Illustrate the various processes that are involved in the rock cycle and discuss how the total amount of material stays the same through formation, weathering, sedimentation, and reformation.

E.S. 1.28 Discuss geologic evidence, including fossils, and radioactive dating, in relation to Earth’s past.

**Objectives:**

3.1 The Rock Cycle, pp. 66–69

3.1 Define the term *rock*.

3.2 Identify the three major types of rocks and explain how they differ.

3.3 Describe the rock cycle.

3.4 List the forces that power Earth’s rock cycle.

3.2 Igneous Rocks, pp. 70–74

3.5 Compare and contrast intrusive and extrusive igneous rocks.

3.6 Demonstrate how the rate of cooling affects an igneous rock’s texture.

3.7 Classify igneous rocks according to texture and composition.

3.3 Sedimentary Rocks, pp. 75–79

3.8 Describe the major processes involved in the formation of sedimentary rocks.

3.9 Distinguish between clastic sedimentary rocks and chemical sedimentary rocks.

3.10 Identify the features that are unique to some sedimentary rocks.

3.4 Metamorphic Rocks, pp. 80–84

3.11 Predict where most metamorphism takes place.

3.12 Distinguish contact metamorphism from regional metamorphism.

3.13 Identify the three agents of metamorphism and explain what changes they cause.

3.14 Recognize foliated metamorphic rocks and describe how they form.

3.15 Classify metamorphic rocks.

**Learning Activities:**

1. Discussion/Lecture on Rocks and the Rock Cycle

2. Discussion/Lecture on Igneous, Sedimentary, and Metamorphic Rocks

3. Rocks and Minerals Identification Lab

4. Chapter 3 Review