Introduction to Rock and Mineral Identification Kit

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Kit Introduction

This kit serves as an introduction of common types of rocks and minerals, as well as an introduction to the use and creation of classification keys during query and observation-based learning. Furthermore, this kit is ideal for fifth grade use, as its activities support and reinforce three fifth grade Science Standards of Learning.

NOTE: Upon completion of kit use, please fill out and return one of the evaluation sheets found in the front of this manual. Your thoughtful feedback allows us to improve our available kits and activities, as well as create exciting new kits in the future!

Kit Inventory

The kit contains six replicates of rock and mineral sets as well as a seventh replicate for refurbishing purposes. Each replicate includes one of the following:

Minerals (separated into a paper bag):

1. graphite
2. pyrite
3. limonite
4. galena
5. magnetite
6. hematite

Rocks:

1. limestone
2. conglomerate
3. granite
4. gneiss
5. sandstone
6. slate
7. shale
8. quartzite
9. schist
10. basalt
11. marble

Furthermore, six replicates, each containing four identification tools, are provided, as well as a single bottle of weak HCl (for teacher use only):

- streak plate
- magnet
- magnifying glass
- nail

Included Activities

- Classification Key – Identifying Minerals: Students answer questions with their observations to identify six different minerals. This activity uses mineral numbers 1 through 6.

- Classification Key – Identifying Rocks: Students answer questions with their observations to identify five different rocks. This activity uses rock numbers 1 through 5.

- Rocky Road: Students discuss their observations in order to identify eleven different rocks and create a dichotomous key for them. This activity uses rock numbers 2 through 11.

Virginia Science Standards of Learning Addressed by This Kit
(from http://www.doe.virginia.gov/go/Sols/home.shtml)

5.1. The student will plan and conduct investigations in which
- a. rocks, minerals, and organisms are identified using a classification key
- e. data are collected, recorded, and reported using the appropriate graphical representation (graphs, charts, diagrams)

5.7. The student will investigate and understand how the Earth's surface is constantly changing. Key concepts include
- a. the rock cycle including identification of rock type

Earth Science Literacy Principle Addressed by This Kit
(from www.earthscienceliteracy.org)

BIG IDEA 7. Humans depend on Earth for resources.

7.6. Soil, rocks, and minerals provide essential metals and other materials for agriculture, manufacturing, and building. Soil develops slowly from weathered rock, and the erosion of soil threatens agriculture. Minerals and metals are often concentrated in very specific ore deposits. Locating and mining these ore deposits provide the raw materials for much of our industry. Many electronic and mechanical devices have specific requirements for particular rare metals that are in short supply.