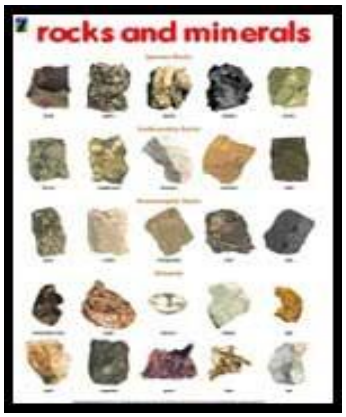
4th Grade Science Trail

Rocks and Minerals



Have you ever made observations about a rock or mineral?

Have you ever researched about rocks and minerals?

Have you ever categorized rocks?

Have you ever compared two rocks or minerals?

Well Now You Can . . .

You are going to be split up in groups. There are four groups of five and one group of six. We are going to go outside to the mall (the huge section of grass in the middle of campus) for a science trail. There are a total of three stations that you will be going to. Each station has a different activity to do with rocks and minerals. There are specific directions for each station on separate pages. Read the directions carefully and do everything they ask. You will have about 10-12 minutes at each station. Each person is responsible for doing their own work, but I want you to work together in your groups. Work together and HAVE FUN learning about rocks ☺

Directions To Station 1

The first station is located in front of the Administration Building. We are all going to start out as a group at the mall. From the mall you will walk straight to the sidewalk, past the Library and Communication building. You will see a big building right in front of you. You are going to walk around the building to the front. There are three doors. Station 1 is located outside of the first door on your right.

Directions To Station 2

The second station is located at the top of the stairs to the Library. From the mall, you will walk straight to the Library and walk up the steps. The station is located at the top of the stairs.

Directions To Station 3

Station 3 is located in front of Cordier. Cordier is at the end of the mall. Walk the mall all the way down to the building at the end. You will see station 3 located on the sidewalk in front of the door on the left. Use the picture below to guide you to station 3.

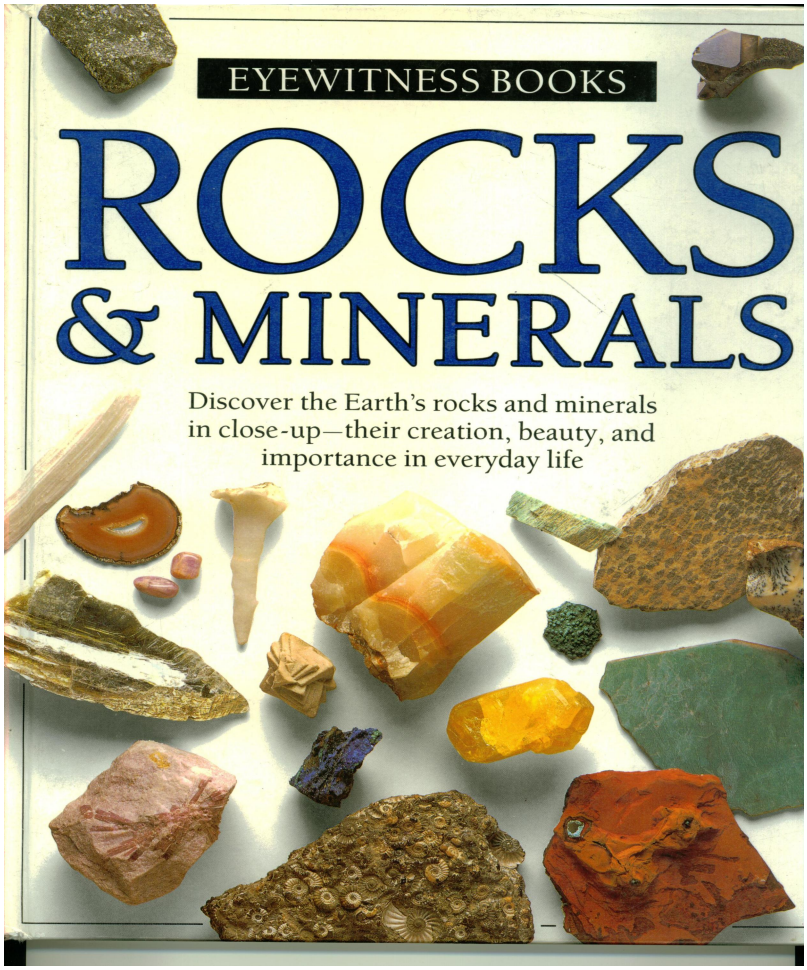
Station 1 – Observations

Directions: At the station there is a container with 12 rocks inside. You will pick 2-3 rocks. There is a light pen and a magnifying glass for you to use to get a closer and better look at your rocks. Use the chart on the next page to write down your observations. BE SPECIFIC

	Size	**Shape**	**Color**	**Texture**	**Weight**
Name of Rock 1					
Name of Rock 2					
Name of Rock 3					

Station 2 – Research Facts About Rocks and Minerals

Directions: At the station there are three books. You are to choose one of the books to look at. Look through the book and find at least four interesting facts about rocks and minerals. Use the web on the next page to write down your facts. Write the title of the book in the center circle. Fill in your different facts in the other circles that surround the center circle.



Station 3 – Categorizing and Comparing

Directions for part 1 - Categorizing: At the station there is a container of 10 different rocks and minerals. In your groups of four or five you are going to work together to categorize the different rocks based on characteristics. You must have at least three different groups but no more than five. Use the chart on the next page to write the name of each group and list the rocks or minerals in the group you categorized them in. Write your explanation for why you categorized the ten rocks and minerals the way you did on the lines below the chart and why gave each group the name you gave it.

List the rocks and minerals or you can draw a picture of the rock in the group it belongs to. Give each group a name and the name must have something to do with how you categorized the groups.

Group A Name:	Group B Name:	Group C Name:	Group D Name:	Group E Name:

Explain how and why you categorized the groups the way you did.

Directions for part 2 – Comparing: From the rocks you are going to pick two. You are going to compare the two rocks you picked. Use the Venn diagram on the next page to write down your comparisons. You need to have at least three points for each section of the comparison diagram. Write details that tell how the rocks are different in the outer circles. Write details that tell how the rocks are alike where the circles overlap (in the center).

Teacher's Guide for Fourth Grade

Science Trail

Rocks and Minerals

Station 1 – Observations

Objective:

Given a chart, the students will write down their observations about two rocks with 95% accuracy.

Hands-On Activity: The students will pick two rocks from the container of twelve. They are going to write down their observations of the two rocks using the chart to guide them. The chart will include: name, color, size, shape, texture, and weight. The teacher needs to stress to the students to be specific in their observations.

Materials Needed:

- 12 different rocks and minerals
- Light Pen

Each Student Needs:

- An observation chart
- Clipboard
- Pencil

Assessment: The students will turn in their observation chart and it should

- Have a name for each rock in the name block
- Have at least one word or phrase in each of the blocks (size, shape, color, texture, and weight)
- Have descriptive words and be specific

Station 2 – Research Facts About Rocks and Minerals

Objectives:

Given a book about rocks and minerals, the students will pick at least four facts they learned from reading with 100% accuracy.

Given a web diagram, the students will write down at least four facts about rocks and minerals with 100% accuracy.

Hands-On Activity: The students will work individually or in pairs. They will pick from one of the three books, about rocks and minerals, to look up information. While looking through the book, the students will pick at least four interesting facts. The students will use the given Web diagram to write down the facts they have learned. They need to write the title of the book in the center circle. They will fill in at least four of the circles that surround the center circle with their facts they found in the book.

Materials Needed:

- Rocks and Minerals by Dr. R. F. Symes and the staff of the Natural History Museum
- Rocks and Fossils by Ray Oliver
- The Science-Hobby Book of Rocks and Minerals by Miriam Gilbert

Each Student Needs:

- Web Diagram
- Clipboard
- Pencil

Assessment: The students will turn their web diagram in. The center circle needs to have one of the three titles and at least four of the outside circles need to have a fact written in.

Station 3 – Categorizing and Comparing

Objectives:

In groups of five or six, the students will categorize ten rocks and minerals into groups with 100% accuracy.

Given a chart, the students will explain how they categorized the ten rocks and minerals into groups with 95% accuracy.

Given a chart, the students will explain why they categorized the rocks and minerals the way they did with 95% accuracy.

Given a comparison diagram, the students will write down the differences between two rocks with 100% accuracy.

Given a comparison diagram, the students will write down the similarities between two rocks with 100% accuracy.

Hands-On Activity:

Part 1: The students will work in their groups of five or six. They are going to work together to categorize ten rocks and minerals. The students can categorize the rocks any way they would like as long as it is based on specific characteristics. The students will be required to explain how they categorized the rocks and minerals and why they chose to do it the way they did. The students will do this by filling in the categorization chart given.

Part 2: The students will work individually but they can work in pairs if it is needed. The students will pick two rocks and minerals from the ten to compare. They will use the given diagram to fill in the similarities and differences between the two rocks.

Materials Needed:

- 10 rocks and minerals

Each Student Needs:

- Categorizing Chart
- Comparison Chart
- Clipboard
- Pencil

Assessment:

Part 1: The students will turn in their completed categorizing chart with a full explanation of how they categorized the rocks and why they categorized them the way they did.

Part 2: The students will turn in their completed comparison diagram. It should have a least three similarities, three differences for rock 1, and three differences for rock 2.