

Teacher \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_  
 Period(s) \_\_\_\_\_

Grade: 1 Course: Science Lesson Topic: Describing Characteristics

Objectives		Correlation to State Documents		
The student should be able to:		COS	SAT 9	AHSGE/EXIT
1) Describe characteristics of objects		1: 12		
2) Think critically and logically to make inferences and describe relationships between evidence and explanations.		1: 5		
3) Identify questions that can be answered through scientific investigation		1: 1		
4) Use appropriate skills to design and conduct a scientific investigation		1: 4		
Activities/Methods		Resource Materials		Assessment
1. Introduce the topic of providing descriptions. Discuss color, size, texture, and shape. (Use <i>Teacher Cheat Sheet</i> if needed)			Textbook	Check homework
2. Divide class into teams of four: <b>writer, examiner, experimenter, and organizer.</b> (Class of 24= 6 groups of 4)			Overhead Masters	Test/Quiz
3. Give each group 1 sedimentary, 1 igneous, and 1 metamorphic rock. Give each group a string, a ruler, pencils, 1 "Rock Science" sheet, and 1 magnifying glass		X	Workbook/Handouts	Project
4. Ask the "writer" to write names of group members on the "Rock Science" sheet.			Multimedia Materials	X Participation
5. Ask "Organizer" to select one of the rocks they have been given.		X	Hands-On Materials	Class work
6. Ask "Writer" to write the name of the rock down on paper.		X	Reference Materials	Review
7. Ask "Experimenter" to extend string around the rock to measure it marking the string with a pencil to demote length.			Other Supplies	Presentation
8. Ask the "examiner" to place the string along the ruler and provide a measurement for the "writer" to record.				X Oral Responses
9. Ask the "Organizer" to select another rock and repeat the steps to measure/ record it. Repeat with 3 <sup>rd</sup> rock.				X Teacher Observation
10. Ask "Organizer" to select the 1 <sup>st</sup> rock again and give it to the "experimenter." The organizer also hands a magnifying glass to the "experimenter."				Other
11. Ask the "experimenter" to look at the rock under the magnifying glass and describe the texture of the rock for the "writer " to record.				
12. Ask "Organizer" to pass rock 1 to the "examiner." Ask "examiner" to describe the color of rock 1 to the "writer" so that it can be recorded.				
13. Ask "Organizer" to give rock 2 to the "experimenter." Repeat steps with rock 2. Then repeat steps with rock 3				
14. Ask groups to compare/ contrast similarities and differences. Allow groups to discuss their finding with the whole class.				
Comments:	Accommodations	Initials	Remediation Activities	
	Extended Time			
Set up includes: distributing materials to each group	Preferential Seating			
Materials to distribute include: Rock sets, "Rock Science" hand-out, string and rulers.	Testing Accommodation			
	Segmented Assignments		<b>Enrichment Activities</b>	
<b>Extend activity:</b>	Copy of Teacher Notes		Cooperative learning	
Allow teams to swap rock sets and compare properties of 1 <sup>st</sup> set studied to 2 <sup>nd</sup> set.	Assignment Length		<b>Character Education</b>	
	Communication		<b>Respect for environment</b>	
	Assignment Notebook			
	Peer Tutor			
<b>Homework:</b>	Other: Copy of chart			

# ROCK SCIENCE



Name of the writer: \_\_\_\_\_

Your job is to write down the group's names and answers to the questions.

Name of the organizer: \_\_\_\_\_

This job is to give out rocks and supplies to for the exercise.

Name of the experimenter: \_\_\_\_\_

This job is to work with the "examiner" to measure the rock with string and describe the rock.

Name of the examiner: \_\_\_\_\_

This job is to work with the "experimenter" to measure the string with a ruler to find the size. You will also help to describe the shape and feel of the rock.

## How are these rocks different?

Name of rock	Size	Texture	Color
1.	inches	Smooth Bumpy Sharp	
2.	inches	Smooth Bumpy Sharp	
3.	inches	Smooth Bumpy Sharp	

# Rock Science “Teacher Cheat Sheet”

## Set Up:

Divide class into teams of 4.

Assign each student a role as the “writer,” “organizer,” “examiner,” or “experimenter.”

Distribute rock sets. Each set includes one sedimentary rock, one metamorphic rock, and one igneous rock.

Distribute “Rock Science” hand-outs.

Distribute string, rulers, and magnifying glasses to each group.

After talking to class....allow teams to examine rocks.

## Experiment:

Rocks can look alike at first glance but when examined closely they can be very different.

### Teacher guides teams for examination of the 1<sup>st</sup> rock.

1. The “organizer” in each group will pick a rock and reads name to “writer.” It doesn’t matter which rock is first but the first rock selected will become rock 1 for the exercise.
2. “Organizer” gives Rock 1 to “experimenter” who will measure the circumference of the rock with string. “Experimenter” should mark the circumference on the string using a pencil.
3. “Experimenter” gives the marked string to the “examiner” who places it against a ruler to get the measurement of the circumference. The measurement is provided to the “writer” to record.

### These steps are repeated for rocks 2 and 3.

1. “Organizer” then gives the “experimenter” rock 1 again and the magnifying. The “experimenter” looks at the rock under the magnifying glass and describes it as smooth, bumpy, or sharp for the “writer.” All group members can then look under the magnifying glass.
2. “Experimenter” gives rock 1 to “examiner” who describes the color of the rock for the “writer” to record.
3. Repeat for rocks 2 and 3.

### Let groups share their information with each other as you summarize activity.

## Directing discussions:

**Rocks:** There are 3 basic rocks: igneous, sedimentary, and metamorphic.

*Igneous* is from volcanoes. Examples of igneous: obsidian, lava rock, and pumice.

*Sedimentary* forms as layers of dirt, decaying material or other rocks join together in a solid mass. Fossils occur when decaying materials such as trees or dinosaurs become part of the layers. Examples of sedimentary: conglomerate, limestone, and sandstone.

*Metamorphic* forms as igneous or sedimentary rock changes. Heat and pressure often cause this change. Examples: sandstone changes to metamorphic quartzite and limestone changes to metamorphic marble.

\*Before using the term, define *texture* as being the feel and shape of the outside surface of an object.

**Activity:** Rocks are made in different ways and, therefore can look very different. Your task today is to work as teams to describe 3 different rocks. Everyone will have a job to do. Every job is important to the team.

Once you are in your teams, work together to answer this question, “How are these rocks different?”