Classifying Rocks
5th Grade
Kelley Dunbar, Mr. Bellamy and Mrs. Cargle

References: (Checked 1/2005)

- [http://gk-12.osu.edu/Lessons/02-03/RocksAndMinerals_Web.pdf](http://gk-12.osu.edu/Lessons/02-03/RocksAndMinerals_Web.pdf)

Benchmarks:

SLC 12: Identify characteristics and/or patterns in rocks and soil.
   Benchmark A: Student will classify rocks by their characteristics.
SLC 1: Use a simple key to classify objects, organisms and/or phenomena

Objectives:

Students will classify rocks by their characteristics.

Materials:

- Box of rocks for each group/table
- Rock N’ Rule worksheets I and II (see weblink)
- Classifying Rocks Worksheet (see RockKey.doc)
- How are Rocks Different worksheets (included)

Initial Demonstration:

Break students into groups and give each group a box of rocks. Using the “Rock n’ Rule!” worksheet they should sort the rocks into two categories, being sure to label each category and indicate the number of rocks in each of the three sections of the Venn diagram. Moving onto “Rock n’ Rule II,” the students now create three categories into which to divide their rocks. Again, have them mark the number of rocks in each section of the Venn diagram.

If students are already familiar with Venn Diagrams, they can sort their rocks instead using the “Classifying with Rocks” Worksheet, which is drawn up in the form of a dichotomous key. For this worksheet the students will need a minimum of eight rocks to do their sorting.

Target Observations:

- Rocks are similar and different in ways of color, shape, feel, etc.

Target Model:

- Rocks and minerals can be classified by their characteristics.
- Sometimes these characteristics overlap.
Procedure:

Ask students how they categorized their rocks. Discuss the importance to science of making complete and precise observations. To help them understand this importance, have each student pick three rocks from the box and place them on the spots labeled A, B, and C on the “How are Rocks Different?” worksheet. Tell them to be as complete as possible when writing down their observations on the sheet. When they are through with their observations, have the students in each group mix their rocks together. Then, have each student pass his or her observation sheet to another person in the group, who must now find the three rocks as described by his or her peer.

How did it go? Were the observations precise enough for students to find a peer’s rocks with only the description in hand? Why is it important for scientists to be precise? Let students know that there are specific categories of rocks devised by scientists, as well as a way to determine into what category a rock falls. This will be explored in a future lesson.

Target Observations:

• Some rocks were hard to identify.
• Some descriptions weren’t specific enough.
• Some rocks were very similar to one another.

Target Revised Model:

• It is important to be descriptive when writing down scientific observations.
• This enables other scientists to understand your experiment.
• Scientists have grouped together certain rocks in categories.

Summary:

The students have found that rocks can be classified by many different characteristics. They also understand the importance of making precise and complete observations.
# How are Rocks Different?

Pick out 3 rocks from your collection. Make sure they come from 3 different sections on your Rock ‘n’ Rule Venn diagram. Place one rock on each letter. Describe each rock by filling in the chart.

<table>
<thead>
<tr>
<th>Rock</th>
<th>Color</th>
<th>Is it heavy or light?</th>
<th>Is it smooth or rough?</th>
<th>Does it have stripes or spots?</th>
<th>Is it dull or shiny?</th>
<th>Is it big or small?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>