

CLASSIFYING MINERALS

INTRODUCTION

Minerals are the components of rocks, and are used in making useful materials. Different minerals have different properties. These properties are used to classify and identify the minerals.

PURPOSE

Students will observe and examine the physical properties of minerals and use those properties to create groups of minerals.

MATERIALS

- One set of at least 8 different minerals for each group (each group should have the same set of 8 minerals).
 - The minerals should be numbered (with the same minerals in the several sets having the same number).
- One piece of large paper (11x17)
- One piece of notebook paper

PROCEDURE Student instructions

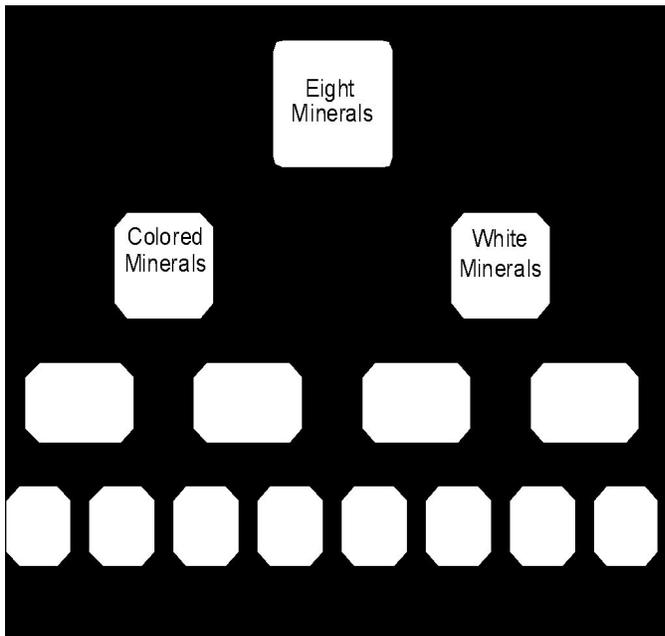
- 1) You will be making a sorting “tree.”
- 2) Assign one person in your group to draw a map of your classification scheme on a piece of notebook paper.
- 3) Put all the minerals close together at the top end of your large paper.
 - a) Draw a circle around the minerals.
- 4) Decide on one property that divides your minerals more-or-less in half.
 - a) You can use your own words to describe the properties for classifying. You will have to identify the property as well as the opposite of that property, such as Light Minerals and Dark Minerals.
- 5) Using the property you have decided upon, move the half of the minerals that have that property out of the circle and slightly down the piece of paper. Move the minerals that don't have that property into a different spot, identifying the property of that group, too.
 - a) Draw circles around the two new groups of minerals that had the property and had the opposite property.
- 6) Draw a line from your new circles to your first circle.
 - a) Label the lines with the properties you used to separate the minerals.
- 7) Repeat the process above (Steps 4 through 6) each time you make a new group.
 - a) For each group of minerals decide on a new property to split the group in half.



- i) The properties you choose for each group do not have to be the same for each new circle.
 - b) Again move the new groups down the piece of paper, draw circles around each new groups, and draw lines back to the old circles, labeling each line with the properties you used to separate the minerals.
- 8) Continue with this process until each mineral is in its own circle.
- 9) Label the last circles with the identification number of the mineral that belongs in each circle on the map of your classification scheme (if you haven't assigned one of your group to draw one as your group progresses, draw a map now).
- 10) Trade maps with another group (not minerals).
- a) See if that group can sort their minerals into the same circles you used.

EVALUATION

- 1) Discuss the results.
 - a) Which groups were able to follow another group's classification?
 - b) Which ones had trouble?
 - i) Why?
 - c) Which properties of minerals were most useful for classification?
 - d) Which were the least useful?



EXAMPLE CLASSIFICATION MAP

