



## Mineral Identification

## Lab #18

**Discussion:** Mineral identification can be fun, but it is also challenging. How do you know which mineral characteristic is best to correctly identify that mineral? We have learned in class that color seems like a good choice but, in fact, it can be misleading because some minerals have nearly identical colors and other minerals can exhibit several different colors. Like many conclusions in science, it is best to make many observations and use multiple data before trying to draw a correct conclusion.

Define the following terms:

1. Hardness – \_\_\_\_\_  
\_\_\_\_\_
2. Luster – \_\_\_\_\_  
\_\_\_\_\_
3. Streak – \_\_\_\_\_  
\_\_\_\_\_
4. Specific gravity – \_\_\_\_\_  
\_\_\_\_\_
5. Cleavage – \_\_\_\_\_  
\_\_\_\_\_
6. Fracture – \_\_\_\_\_  
\_\_\_\_\_

**Objectives:** Identify minerals using as many observable facts as possible and by using page 16 of the PS/ESRT.

**Purpose:** Identify mineral specimens.

**Hypothesis:** Some minerals have some characteristics in common, but by using multiple observations it should be possible to identify any given mineral.

**Theory:** Some minerals have one or two characteristics in common, but they have a set of characteristics that uniquely identifies each mineral.

**Materials:** glass plates    streak plates    mineral specimens                      PS/ESRT

**Method:**

1. Obtain a specimen from the container.
2. Record as many tests as possible and record test results on the table below. Be sure you record your data next to the correct identifying number for your specimen.
3. Once you have collected your set of characteristic data, correctly name your specimen in the last column of the table.



**Data Collection and Processing:**

Number	Color	Hardness	Streak white black	Luster	Cleavage or fracture	Other	Mineral Name
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

**Conclusions:**

1. Why is color *not* always the best characteristic to identify minerals?

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2. Which characteristic do you think is the most valuable for identification purposes?

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3. Are high density minerals also high on the hardness scale?

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4. What causes some minerals to cleave while other minerals fracture?

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5. Name a common mineral that shows a positive acid test.

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6. Why are many of the harder minerals more valuable?

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7. From the PS/ESRT, identify two minerals that are made up of only a single element.

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8. Which mineral on the PS/ESRT is made up of the greatest number of different elements?

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9. Which mineral is the hardest *common* rock forming mineral?

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10. Which common mineral has the highest specific gravity? Why?

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