

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

# Minerals and Rocks

The Physical Setting: Earth Science

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## Lab Activity: Mineral Identification

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### INTRODUCTION:

Of the known 4,000 minerals in existence, only about a dozen called “common rock forming minerals” can be found at or near Earth’s surface. Geologists in the field need to identify minerals quickly and easily. To do this they use observations, physical tests, and chemical tests.

Since the physical properties are remarkably consistent, minerals can easily be identified this way. In addition to the physical tests there are some useful diagnostic chemical tests by which a mineral can be identified based on reactions with acid and other related properties.

### OBJECTIVE:

Learn how to identify minerals based on their physical and chemical properties.

### VOCABULARY:

Mineral -

Luster -

Streak -

Hardness -

Cleavage -

Fracture -

### PROCEDURE A:

For each unknown mineral, identify the key physical characteristics. Using your Earth Science Reference Tables and the Mineral ID Kits, determine the name of the mineral based on the observed characteristics.

# Lab Activity: Mineral Identification

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
1	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
2	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
3	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
4	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
5	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
6	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

# Lab Activity: Mineral Identification

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
7	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
8	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
9	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
10	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
11	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak	Composition
12	<input type="checkbox"/> Metallic <input type="checkbox"/> Non-Metallic	<input type="checkbox"/> Soft <input type="checkbox"/> Hard	<input type="checkbox"/> Cleavage <input type="checkbox"/> Fracture	<input type="checkbox"/> Colored <input type="checkbox"/> Colorless/White	
Characteristics:			Mineral Name:		

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## DISCUSSION QUESTIONS:

1. What is the difference between cleavage and fracture?
2. Why is color alone not a reliable property to identify a mineral?
3. Why is streak a more reliable property than the actual color of the mineral?
4. How is the hardness of a mineral determined?
5. What mineral can usually be identified by using the acid test?

**CONCLUSION:** List the properties which are most useful in identifying a mineral.