Lab Activity: Minerals

INTRODUCTION:

Of the known 4,000 minerals in existence, only about a dozen can be found at or near Earth's surface. These common rock forming minerals have characteristics that are remarkably consistent and can easily be identified using observations, physical tests and chemical test.

OBJECTIVE:

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

VOCABULARY:

Luster -

Streak -

Hardness -

Cleavage -

Fracture -

PROCEDURE:

1. For each unknown mineral, identify the key physical characteristics using the mineral identification kits. Record your answers on the Mineral Identification Chart.
2. Determine the name of the mineral based on the observed characteristics and the Earth Science Reference Tables.

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MINERAL IDENTIFICATION CHART

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
1	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
2	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
3	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
4	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
5	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

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MINERAL IDENTIFICATION CHART

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
6	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
7	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
8	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
9	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		Mineral Name:		

Mineral	Luster	Hardness	Cleavage / Fracture	Streak
10	☐ Metallic ☐ Non-Metallic	☐ Soft ☐ Hard	☐ Cleavage ☐ Fracture	☐ Colored ☐ Colorless/White
Composition:		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.