

LAB 13

Checkout Questions

Lab 13. Characteristics of Minerals: What Are the Identities of the Unknown Minerals?

1. Why is it possible to use physical properties to identify minerals found in rocks?

2. An Earth scientist has a rock she wants to identify and a list of known mineral characteristics. The rock is black with gold metallic specks. Depending on where she runs the streak test, streaks appear black. Its Mohs hardness is 6.2, and its density is 5.2. A table of known mineral characteristics is below.

Mineral	Color	Streak	Luster	Mohs Hardness	Density
Halite	Colorless or white when pure; impurities produce any color but usually yellow, gray, black, brown, red	White	Vitreous	2.5	2
Magnetite	Black to silver gray	Black	Metallic to submetallic	5–6.5	5.2
Muscovite	Thick specimens often appear to be black, brown, or silver in color; however, when split into thin sheets muscovite is colorless, sometimes with a tint of brown, yellow, green, or rose	White, often sheds tiny flakes	Pearly to vitreous	2.5–3	2.8–2.9
Pyrite	Brass-yellow	Greenish black to brownish black	Metallic	6–6.5	4.9–5.2

a. Which minerals does the rock likely contain?

b. How do you know?

3. There is no universal step-by step scientific method that all scientists follow.

a. I agree with this statement.

b. I disagree with this statement.

Explain your answer, using an example from your investigation about characteristics of minerals.

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4. "The rock's color is red" is an example of data.
 - a. I agree with this statement.
 - b. I disagree with this statement.

Explain your answer, using an example from your investigation about characteristics of minerals.

5. Scientists often need to look for patterns that occur in the data they collect and analyze. Explain why identifying patterns are important, using an example from your investigation about characteristics of minerals.

Characteristics of Minerals

What Are the Identities of the Unknown Minerals?

6. In nature, the way something is structured often determines its function or places limits on what it can or cannot do. Explain why it is important to keep in mind the relationship between structure and function when attempting to collect or analyze data, using an example from your investigation about the characteristics of minerals.