

**Objectives**

- Explain which mineral properties are most important in identification.
- Explain each of the mineral properties.
- Classify and identify minerals by their properties.

**The BIG Idea**

- Minerals are basic building blocks of earth.

**Key Concepts**

- A mineral is identified by its properties.

**A mineral's appearance helps identify it**

1. What do you observe to identify a mineral? \_\_\_\_\_
2. What are properties? \_\_\_\_\_
3. List six properties of a mineral. \_\_\_\_\_  
\_\_\_\_\_
4. List two special properties some minerals may have. \_\_\_\_\_
5. What are three reasons why a mineral's color may change?
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
6. What is streak? \_\_\_\_\_
7. What tool (piece of equipment) do scientists use to test the streak of a mineral? \_\_\_\_\_
8. Does the streak of a mineral change from sample to sample? \_\_\_\_\_
9. Which is better to identify a mineral: color or streak? Why? \_\_\_\_\_  
\_\_\_\_\_
10. What is luster? \_\_\_\_\_
11. What are the two major categories of luster? \_\_\_\_\_
12. Name and describe one nonmetallic luster. \_\_\_\_\_  
\_\_\_\_\_
13. Does the luster of a mineral change from sample to sample? \_\_\_\_\_

**The way a mineral breaks helps identify it**

14. What are the two terms that describe how a mineral breaks? \_\_\_\_\_
15. What determines how a mineral breaks? \_\_\_\_\_
16. The tendency to break along flat surfaces is called \_\_\_\_\_
17. The tendency of a mineral to break into irregular pieces is called \_\_\_\_\_
18. What do we know about the bonds of atoms in a mineral that cleaves?  
\_\_\_\_\_
19. What do we know about the bonds of atoms in a mineral that fractures?  
\_\_\_\_\_
20. Does the cleavage or fracture of a mineral change from sample to sample? \_\_\_\_

**A mineral's density and hardness help identify it**

21. What is density? \_\_\_\_\_
22. What is the equation to calculate density? \_\_\_\_\_
23. What is mass? \_\_\_\_\_
24. What is weight? \_\_\_\_\_
25. Which will remain constant: the mass or the weight? \_\_\_\_\_
26. What is volume? \_\_\_\_\_
27. What is hardness? \_\_\_\_\_
28. What determines hardness? \_\_\_\_\_
29. What scale measures the hardness of a mineral? \_\_\_\_\_
30. What is the numerical range of this scale? \_\_\_\_\_

**Some minerals have special properties**

31. What is fluorescence? \_\_\_\_\_
32. If a mineral attracts metal, what property does it have? \_\_\_\_\_
33. A mineral that is in the carbonate group (CO<sub>3</sub>) will have what special property? \_\_\_\_\_