

**Lesson Outline****LESSON 2*****How are minerals identified?*****A. Physical Properties**

1. Scientists who study the distribution of minerals, mineral properties, and their uses are \_\_\_\_\_.
  - a. Mineralogists have identified simple tests to help \_\_\_\_\_ unknown minerals.
  - b. These tests are based on physical and chemical \_\_\_\_\_ of the minerals.
2. \_\_\_\_\_ alone cannot be used for mineral identification.
3. Variations in color reflect the presence of different types of \_\_\_\_\_.
4. \_\_\_\_\_ is the way a mineral reflects or absorbs light at its surface.
  - a. \_\_\_\_\_ is the shiniest luster.
  - b. Nonmetallic minerals have luster types that might still be shiny, but are not \_\_\_\_\_ like metal.
  - c. A mineral that lacks shiny luster has earthy or \_\_\_\_\_ luster.
5. \_\_\_\_\_ is the color of a mineral in powdered form.
  - a. Streak can be produced by rubbing a mineral across an unglazed \_\_\_\_\_ plate.
  - b. Streak is only useful for identifying minerals that are \_\_\_\_\_ than porcelain.
  - c. Some metallic minerals can vary in color but have a streak color that is always \_\_\_\_\_.
6. \_\_\_\_\_ is the resistance of a mineral to being scratched.
  - a. \_\_\_\_\_ ranges from 1 to 10 and is used to compare the hardness of minerals.
  - b. \_\_\_\_\_ has a hardness of 1, and \_\_\_\_\_ has a hardness of 10.

## Lesson Outline continued

7. The arrangement of atoms and the strength of bonds between atoms determine how a mineral \_\_\_\_\_.
  - a. If a mineral breaks with smooth, flat surfaces, it has \_\_\_\_\_.
  - b. If a mineral breaks to form uneven surfaces, it has \_\_\_\_\_.
  - c. Some minerals break into splinters or \_\_\_\_\_; others break with smooth and \_\_\_\_\_ surfaces.
8. The mass of an object divided by its volume is the \_\_\_\_\_ of the object. If someone holds two minerals, the one that feels heavier has \_\_\_\_\_ density.
9. How a mineral feels is its \_\_\_\_\_.
10. Calcite \_\_\_\_\_ when it comes in contact with hydrochloric acid.
11. Some minerals are \_\_\_\_\_ due to the presence of iron in their chemical formula.
12. \_\_\_\_\_ is a mineral's ability to glow when it is exposed to ultraviolet light.