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A scientist has three unlabeled samples of pure metals. He wants to determine the identity of each metal.

- a. Identify which **one** of the following properties the scientist should use to determine the identity of the pure metal in each sample: color, melting point, mass, or volume.
- b. Explain why the property you identified in part (a) can be used to determine the identity of the pure metal in each sample.

The scientist cuts each of the samples of pure metal into two smaller pieces.

- c. Is the property that is used to determine the identity of the metal affected when each sample is cut into two pieces? Explain your answer.

The scientist can also use density to determine the identity of the pure metal in each sample.

- d. Describe how the scientist can determine the density of the pure metal in each sample.