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A student follows the procedure below to determine how two variables will affect the dissolution rate of sugar in water.

1. Place a 2.0 g sugar cube into 150 mL of 10°C water.
  2. Place an identical 2.0 g sugar cube into 150 mL of 50°C water.
  3. Place 2.0 g of granulated sugar into 150 mL of 50°C water.
  4. Stir the three sugar-water mixtures equally.
  5. Measure the time it takes for all of the sugar in each mixture to dissolve.
- a. Identify the **two** variables being tested in the procedure.
  - b. Describe the most likely effect **each** variable in part (a) has on the rate at which the sugar dissolves in water. Explain your reasoning.
  - c. Write a procedure to test the effect solvent volume has on the rate at which sugar dissolves in water.
  - d. Describe the expected results for the procedure you wrote in part (c). Explain your reasoning.