

Scientific Method Review.

ANSWER KEY

Part A

1. **B**
2. **C**
3. **C**
4. **D**
5. **B**
6. **C**
7. **C**
8. **B**
9. **C**
10. **B**

Part B Sample Answers

11. How does water temperature affect the rate at which sugar dissolves?

12. If the temperature of water increases, then sugar will dissolve faster.

13. Independent Variable: Water temperature

Dependent Variable: Time it takes for sugar to dissolve

Controlled Variables (any two appropriate answers):

- Amount of sugar
- Volume of water
- Type of sugar
- Stirring rate
- Container type

14. Measure and record the time it takes for a fixed amount of sugar to completely dissolve in water at different temperatures. Record results in a data table and repeat trials for reliability.

15. The results show that sugar dissolved fastest in hot water. Therefore, the hypothesis that increasing temperature increases the rate of dissolving is supported by the data.

16. Repeat the experiment multiple times, increase sample size, or have another group perform the same experiment to check for similar results.