

## Chapter 1 Review Answers

1. c – an inference
2. b – manipulated variable (MV)
3. b – mass
4. b – reproducibility
5. c – alert your teacher
6. ...forecast of what will happen in the future based on past experience and current information.
7. ...facts, figures, and other evidence gathered through observations.
8. ...its mass per unit volume
9. ...the 5 and first 2 have been measured exactly, and the second 2 has been estimated
10. ...how much y changes for every change in x
11. Sample: Physical science is the study of matter, energy, and how they change.
12. A scientific hypothesis must be testable so that information (evidence) can be collected that may or may not support the hypothesis.
13. it is important to change just one variable parameter at a time in a controlled experiment to tell what is causing observable changes.
14. Scientists must use standard units of measurement in their experiments so that they can compare and communicate with each other about their results.
15. Sample answer: Only when measurements are accurate and precise can you be sure that they are close to the true, or correct, values and were made carefully using high-quality measuring tools.
16. Sample answer: A smooth line is most likely to show the general trend of the data. Connecting the dots may not show the trend and may even make inconsistencies or normal variations in the data appear too important.
17. Sample Answer: You should read through the procedure, review safety guidelines, and ask your teacher about anything that is unclear.
18. Object B has a greater volume (64 cm<sup>3</sup>) than object A (48 cm<sup>3</sup>).
  
22. 2.5 g/cm<sup>3</sup>
23. 204 cm<sup>2</sup>
24. Time (min.) on the horizontal axis; Distance (m) on the vertical axis.
25. No. For the first minute, the stream traveled about 65 m. For the second minute, the stream traveled only about 10 m. The stream traveled fewer meters for each additional minute.
26. Sample answer: The stream will barely travel any distance.