

CHAPTER 2 STUDY GUIDE FOR CONTENT MASTERY

Data Analysis

Section 2.1 Units of Measurement

In your textbook, read about SI units.

Complete the following table.

SI Base Units		
Quantity	Base unit	Unit abbreviation
1.		s
2. Mass		
3.	kelvin	
4. Length		

In your textbook, read about base units and derived units.

For each SI unit in Column A, write the letter of the matching item from Column B.

Column A

Column B

- | | |
|---|--|
| <p>_____ 5. second</p> <p>_____ 6. meter</p> <p>_____ 7. kilogram</p> <p>_____ 8. cubic meter</p> | <p>a. A platinum-iridium cylinder that is stored at constant temperature and humidity</p> <p>b. The microwave frequency given off by a cesium-133 atom</p> <p>c. A cube whose sides all measure exactly one meter</p> <p>d. The distance that light travels through a vacuum in 1/299 792 458 second</p> |
|---|--|

9. Use Table 2–2 in your textbook to arrange the following prefixes in order from largest to smallest.

centi- giga- kilo- mega- milli- nano- pico-

10. List the symbols and factors that the following prefixes represent.

- a. centi- _____
- b. kilo- _____
- c. milli- _____

Section 2.1 *continued*

Answer the following questions.

11. Which temperature scale will you use for your experiments in this class? Is this an SI unit?

12. How many grams are in a kilogram?

13. How many liters are in a megaliter?

14. How many centimeters are in a meter?

15. What is the difference between a base unit and a derived unit?

16. What is density?

17. Explain in terms of density why a grocery bag containing all canned goods is harder to lift than a grocery bag containing all paper goods.

18. How can you obtain an object's volume if you know its density and its mass?

19. What is the three-part process for problem solving?

20. How are degrees Celsius converted to kelvins?
