

# Standards of Measurement

Some prefixes used in SI are listed in the table below. Use the information in the table to answer questions 1–5.

SI Prefix	Meaning
kilo-	thousand (1000)
hecto-	hundred (100)
deka-	ten (10)
deci-	tenth (0.10)
centi-	hundredth (0.01)
milli-	thousandth (0.001)

- How many meters are in one *kilometer*? \_\_\_\_\_
- What part of a liter is one *milliliter*? \_\_\_\_\_
- How many grams are in two *dekagrams*? \_\_\_\_\_
- If one gram of water has a volume of one *milliliter*, what would the mass of one liter of water be in *kilograms*? \_\_\_\_\_
- What part of a meter is a *decimeter*? \_\_\_\_\_

In the blank at the left, write the term that correctly completes each statement. Choose from the terms listed below.

metric

SI

standard

ten

prefixes

tenth

- An exact quantity that people agree to use for comparison is a \_\_\_\_.
- The system of measurement used worldwide in science is \_\_\_\_.
- SI is based on units of \_\_\_\_.
- The first system of measurement that was based on units of ten was the \_\_\_\_ system.
- In SI, \_\_\_\_ are used with the names of the base unit to indicate the multiple of ten that is being used with the base unit.
- The prefix *deci-* means \_\_\_\_.

## STUDY GUIDE

## ● Using SI Units

Match the terms in Column II with the descriptions in Column I. Write the letters of the correct term in the blank on the left.

## Column I

- \_\_\_\_\_ 1. distance between two points
- \_\_\_\_\_ 2. SI unit of length
- \_\_\_\_\_ 3. tool used to measure length
- \_\_\_\_\_ 4. units obtained by combining other units
- \_\_\_\_\_ 5. amount of space occupied by an object
- \_\_\_\_\_ 6. unit used to express volume
- \_\_\_\_\_ 7. SI unit of mass
- \_\_\_\_\_ 8. amount of matter in an object
- \_\_\_\_\_ 9. mass per unit of volume
- \_\_\_\_\_ 10. temperature scale of most laboratory thermometers
- \_\_\_\_\_ 11. instrument used to measure mass
- \_\_\_\_\_ 12. interval between two events
- \_\_\_\_\_ 13. SI unit of temperature
- \_\_\_\_\_ 14. SI unit of time
- \_\_\_\_\_ 15. instrument used to measure temperature

## Column II

- a. time
- b. volume
- c. mass
- d. density
- e. meter
- f. kilogram
- g. derived
- h. liter
- i. second
- j. kelvin
- k. length
- l. balance
- m. meterstick
- n. thermometer
- o. Celsius

Circle the two terms in each group that are related. Explain how the terms are related.

16. Celsius degree, mass, kelvin \_\_\_\_\_

\_\_\_\_\_

17. balance, second, mass \_\_\_\_\_

\_\_\_\_\_

18. kilogram, liter, cubic centimeter \_\_\_\_\_

\_\_\_\_\_

19. time, second, distance \_\_\_\_\_

\_\_\_\_\_

20. decimeter, kilometer, kelvin \_\_\_\_\_

\_\_\_\_\_

## STUDY GUIDE

## ● Graphing

Choose the term from the word list that best completes each statement. Write the term in the blank at the left of each statement.

graph  
horizontal  
hatch marks

vertical  
independent  
pie graph

dependent  
bar graph  
 $y$ -axis

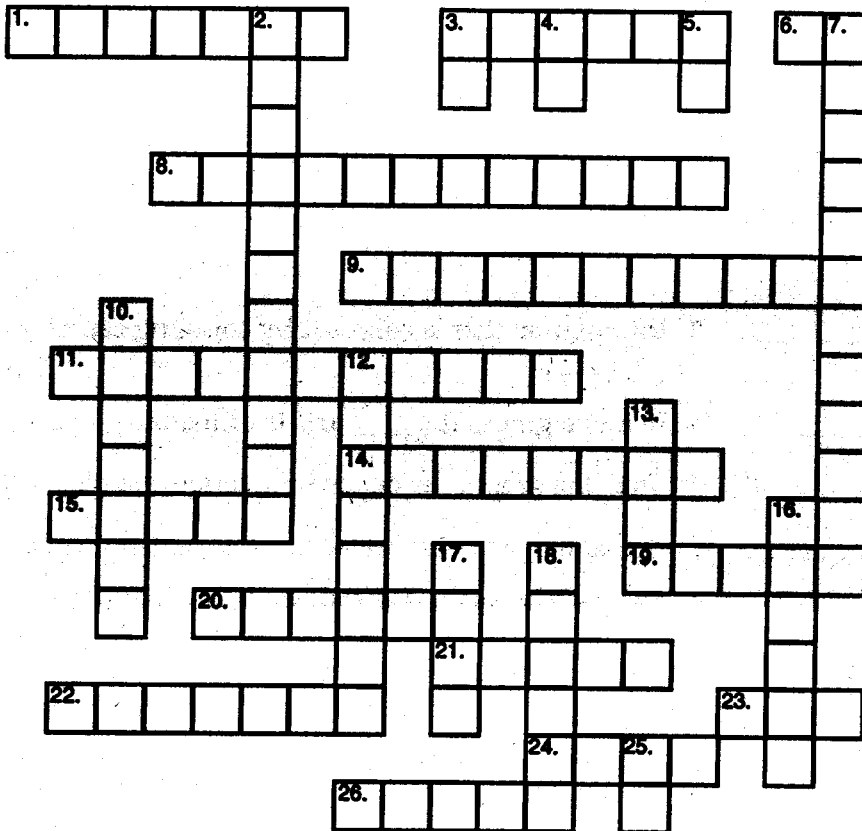
line graph  
 $x$ -axis  
percentages

1. A visual display of data or information is a \_\_\_\_.
2. Information that is collected by counting can best be displayed on a \_\_\_\_.
3. In a line graph, the \_\_\_\_ axis is called the  $y$ -axis.
4. In a line graph, the dependent variable is plotted on the \_\_\_\_.
5. A graph that shows information as parts of a circle is a \_\_\_\_.
6. The type of graph that is useful for showing trends or continuous change is a \_\_\_\_.
7. Information in a pie graph is often shown as \_\_\_\_.
8. Information that remains constant and does not depend on changes in the value of another variable is called the \_\_\_\_ variable.
9. In a line graph, the independent variable is plotted on the \_\_\_\_ axis.
10. Numbers that are left off a graph to save space can be shown using lines called \_\_\_\_.
11. A variable that changes as a result of the other variable is called a \_\_\_\_ variable.
12. In a line graph, the horizontal axis is also called the \_\_\_\_.

## STUDY GUIDE

## ● SI for All?

Solve the following crossword puzzle by using the clues provided.



## Across

## Down

- |  |   |
|--|---|
| <p>1. mass per unit volume</p> <p>3. SI unit of time</p> <p>6. symbol for millimeter</p> <p>8. units of measurement that are obtained by combining other units (2 words)</p> <p>9. measurement expressed in <math>m^3</math> (2 words)</p> <p>11. measure of how hot or cold something is</p> <p>14. an exact quantity people use for comparison</p> <p>15. unit of volume slightly larger than a quart</p> <p>19. SI unit of length</p> <p>20. measurement of amount of space an object takes up</p> <p>21. prefix meaning 0.01</p> <p>22. instrument used to measure mass</p> <p>23. type of graph expressed in a circle</p> <p>24. interval between two events</p> <p>26. a visual display of information or data</p> | <p>2. instrument used to measure temperature</p> <p>3. measuring system used worldwide</p> <p>4. symbol for centimeter</p> <p>5. symbol for decimeter</p> <p>7. tool used to measure length</p> <p>10. temperature scale used on most laboratory thermometers</p> <p>12. 0 K is called ____ zero</p> <p>13. unit that equals 0.001 kilogram</p> <p>16. SI unit of temperature</p> <p>17. prefix meaning 0.1</p> <p>18. distance between two points</p> <p>25. symbol for milliliter</p> |
|--|---|