

Pre-Test

Directions: Circle the "T" if a statement is true or "F" if it is false (F).

There are many different ways matter can be measured. T F

One of the least familiar types of matter is solids. T F

The metric system is a system of measurement used throughout the world. T F

It is not possible to measure the weight of solids. T F

Density is the amount of space matter takes up. T F

A liter is used to measure the volume of liquids. T F

One milliliter of water equals one gram of water. T F

Temperature is the measure of the energy or heat of matter. T F

Gases can be measured by weighing them. T F

Matter consists of solids, liquids, gasses, and plastics. T F

Video Quiz

Directions: Fill in the blank with the correct word from the list at the bottom of the page. Not all words from the list will be used.

1. _____ is a way to describe matter with numbers.
2. The _____ system is used by scientists to measure matter.
3. A meter is used to measure the _____ of objects.
4. The metric system uses _____ to measure weight.
5. _____ is the amount of space matter takes up.
6. _____ is the amount of matter per unit of volume.
7. Cotton balls have a _____ density.
8. Containers called _____ are often used by scientists to measure liquid.
9. _____ is a measure of heat, or energy of matter.
10. In the metric system, temperature is recorded in units of degrees _____.

beakers
Celsius
centimeter
density
Fahrenheit
gases
grams
length
low
measuring
meter
metric
milliliter
temperature
volume

Discussion Questions

Directions: Answer the following questions in the space provided or out loud.

1. What are the four types of matter?
2. Give examples of when you might use a meter stick.
3. Describe how to use a scale to measure the weight of a rock using the metric system.
4. What is the definition of volume?
5. What is a cubic centimeter?
6. What is the definition of density?
7. Give an example of when you might measure liquids using the metric system.
8. Give an example of when you might measure the temperature using the metric system.

Vocabulary Exercise

Direction: Match the definition on the right column with the word in the left column by drawing a line to the correct definition. You may need to use your dictionary in order to find the correct match.

centimeter	unit of measurement used on metric rulers and meter sticks - 100 to one meter
Celsius	system of measurement used throughout the world and commonly used in science to measure matter
cubic centimeter	the way to describe the characteristics of matter through numbers
density	unit in the metric system used for measuring the volume of liquids
liter	have a definite shape and take up a definite amount of space
measurement	one centimeter high by one centimeter long by one centimeter wide
milliliter	amount of space matter takes up
solids	amount of matter per unit of volume
temperature	smaller metric unit used for measuring the volume of liquids
volume	measure of the energy or heat of matter

Writing Exercise

Directions: In the space below, write a short story in three short paragraphs about measuring matter. Use the following words in your story: *measure, solids, liquids, meter, metric system, centimeter, volume, density, cubic centimeter, liter, milliliter, temperature, Centigrade* and *Celsius*.

The Metric System

Directions: Write the symbol for each unit in the spaces provided.

Measurement	Unit	Symbol
1. length	meter	
2. volume	liter	
3. length	centimeter	
4. volume	millimeter	
5. mass/weight	gram	
6. mass/weight	kilogram	
7. temperature	degrees Celsius	

Directions: Convert the following measurements to the new units given.

8. 2 kilograms = _____ grams
9. 8 liters = _____ milliliters
10. 6 kilograms = _____ grams
11. 400 centimeters = _____ meters
12. 70000 grams = _____ kilograms
13. 1000 milliliters = _____ liter
14. 5000 meters = _____ kilometers
15. 2 meters = _____ centimeters

Measuring Matter

Objective:

In this experiment, use a metric ruler or measuring stick to calculate the dimensions of several objects supplied by your teacher.

Materials:

metric ruler
meter stick
pencil
paper

Procedure:

1. Measure the length, height, and width of five objects supplied by your teacher by your teacher.
2. Write the name of each object in the first column of the data table, labeled "Object."
3. Record your measurements in the columns labeled "Length," "Height," and "Width."

Data Table

Object	Length	Height	Width

Conclusion:

Describe any problems you encountered when performing the measurements and calculations. How could you have made your measurements more precise?

Post - Test

Directions: Fill in the blank with the correct word and answer the questions with the appropriate response.

1. Gas can be measured either by _____ or by _____ its volume. (10 pts)
2. The _____ system is a system of measurement used throughout the world. (10 pts)
3. Describe a cubic centimeter. (10 pts)
4. One milliliter equals one _____ of water. (10 pts)
5. _____ is the measure of the energy or heat of matter. (10 pts)
6. What are the four different types of matter? (10 pts)

7. Containers called breakers and graduated cylinders are often used by scientists to measure _____. (10 pts)
8. Temperature is a measure of _____ of matter. (10 pts)
9. Units of degrees _____ or _____ are used to measure temperature. (10 pts)
10. To calculate an object's volume, multiply _____ times _____ times _____. (10 pts.)