

Using Pages C10-C15 to fill in the blanks for questions 1-11

1. _____ is anything that has mass and volume.
2. Mass is the measure of how much _____ something contains.
3. _____ is a measure of the force of gravity acting on a mass.
4. The most common metric units used to measure mass are _____ and _____.
5. The _____ of an object is the amount of space it takes up.
6. An instrument called a _____ is used to measure liquid volumes.
7. Write the formula for finding the volume of a solid. $V =$ _____
8. The volume of irregularly shaped solids can be found by using the
_____.
9. _____ is the amount of mass in a certain volume of matter.
10. Write the formula for finding density. $D =$ _____
11. A particular kind of matter always has the same _____, regardless of where the matter comes from and where it is found.

Using Pages C19-C21 to fill in the blanks for questions 12-17

12. The three common _____ are solid, liquid and gas.
13. Solids liquids and gases are made up of tiny _____ that are constantly in
_____.
14. Solid particles move by _____ -- but do not leave their position.
15. _____ keep their shape.
16. _____ have no definite shape.
17. _____ have no definite shape or volume.

Using Pages C25-C28 to fill in the blanks for questions 18-25

18. The energy of motion is called _____.
19. _____ is a measure of the average kinetic energy of the particles in a material.
20. _____ is energy that flows from warmer to cooler regions of matter.
21. When enough energy has been added to ice, the force holding particles together in the solid is overcome, and the ice changes states or _____, to become liquid water.
22. When enough energy has been added to ice, the force holding particles together in the solid is overcome, and the ice changes states or _____, to become liquid water.
23. The change in states from liquid to gas is called _____.
24. If enough heat is removed from a gas, it will change to a liquid, the process is called _____.
25. The change from a liquid to a solid is called _____.

Review

Word Power

Write the letter of the term that best matches the definition.
Not all terms will be used.

- ___ 1. The change of state from a gas to a liquid
- ___ 2. The amount of mass in a given volume of matter
- ___ 3. Anything that has mass and volume
- ___ 4. The amount of space an object takes up
- ___ 5. Energy that flows from warmer to cooler regions of matter
- ___ 6. A measure of the amount of matter in an object

- a. condensation
- b. density
- c. evaporation
- d. heat
- e. mass
- f. matter
- g. temperature
- h. volume

Check What You Know

Write the term in each pair that correctly completes each sentence.

- _____ 1. To calculate the density of an object, you need to know its volume and its (mass, height).
- _____ 2. In a liquid the particles move faster than in a (solid, gas).
- _____ 3. Energy that flows from warmer to cooler regions of matter is known as (heat, temperature).

Investigation # 1

1. Define Mass, volume, and density.

2. How can you find the volume of a cube and of an irregularly shaped object?

3. When might you want to find the density of an object?

4. Suppose you have a 10-g cube that floats in water and a 10-g sphere that does not. What can you infer about the volume of each object? Why?

Investigation # 2

1. What is matter made of?

2. Why do solids have a definite shape but liquids and gases do not?

3. Iron expands when it is heated. Draw a sketch of how particles of a piece of iron might look at 10°C and at 50°C.

4. If you add 2 ml of sugar to 100 ml of water, the volume of the water does not change. What do you think will happen if you keep adding more and more sugar? Why?

Investigation # 3

1. How are temperature and heat different?

2. What happens during condensation?

3. Bubbles of gas often form in tap water left at room temperature. Do you think this gas is water vapor, or is it something else? Explain your reasoning.

4. If you add 2 ml of sugar to 100 ml of water, the volume of the water does not change. What do you think will happen if you keep adding more and more sugar? Why?
