

# The Properties of Water

## The Structure of Water

1. Circle the letter of each sentence that is true about water's structure.
  - a. Water is made up of atoms bonded to form molecules.
  - b. Water contains half as many hydrogen atoms as oxygen atoms.
  - c. Water molecules tend to push away from each other.
  - d. The chemical formula for water is H<sub>2</sub>O.

## Key Properties of Water

2. A molecule that has electrically charged areas is called a(n) \_\_\_\_\_ molecule.
3. Circle the letter of each sentence that is true about capillary action.
  - a. It explains how water moves against the force of gravity.
  - b. It is due to the attraction among molecules of water and surrounding materials.
  - c. It prevents water from moving through materials with pores.
  - d. It causes clothing to stay dry.
4. How does capillary action allow water to climb up the sides of a straw?  
\_\_\_\_\_  
\_\_\_\_\_
5. Circle the letter of each sentence that is true about water's surface tension.
  - a. It helps some insects "skate" across the surface of the water.
  - b. It refers to the tightness across the surface of the water.
  - c. It is caused by polar molecules repelling each other.
  - d. It causes raindrops to form round beads.
6. How does surface tension force the surface of water to curve?  
\_\_\_\_\_  
\_\_\_\_\_
7. A mixture that forms when one substance dissolves another is called a(n) \_\_\_\_\_. The substance that does the dissolving is called a(n) \_\_\_\_\_.
8. Why can water dissolve many substances?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. Circle the letter of each substance that dissolves in water.
  - a. salt
  - b. oil
  - c. oxygen
  - d. wax



10. The amount of heat needed to increase the temperature of a certain mass of a substance by  $1^{\circ}\text{C}$  is its \_\_\_\_\_.
11. Is the following sentence true or false? Compared with other substances, water requires a lot of heat to increase its temperature.  
\_\_\_\_\_
12. Circle the letter of each sentence that is true about water's specific heat.
- It is due to the many attractions among water molecules.
  - It makes large bodies of water heat up more quickly than nearby land.
  - It makes large bodies of water cool off more slowly than nearby land.
  - It leads to warmer air over land than over water on summer days.

### Changing State

13. List the three states of matter.
- a. \_\_\_\_\_ b. \_\_\_\_\_
- c. \_\_\_\_\_
14. Solid water is called \_\_\_\_\_.

Match the state of water with the statement that is true about it.

State of Water	Statement
___ 16. ice	a. It is invisible.
___ 17. liquid water	b. It takes the shape of its container.
___ 18. water vapor	c. It has a temperature less than $0^{\circ}\text{C}$ .

19. Circle the letter of each sentence that is true about evaporation.
- It occurs as water molecules absorb energy.
  - It occurs as water molecules slow down.
  - It occurs at the surface of a liquid.
  - An example of it is air drying your hair after swimming.
20. Circle the letter of each sentence that is true about condensation.
- It occurs as water molecules slow down.
  - It occurs as the temperature of water molecules reaches the boiling point.
  - It turns water from a visible state to an invisible state.
  - An example of it is clouding up a cold window with your breath.