Changes Of State

MATCHING: Match the two lists. Place the correct letter on the line beside the number.

1. ______ the change from a solid to a liquid A. ice
2. ______ the states of matter B. sublimation deposition
3. ______ the change from a liquid to a solid C. condensation
4. ______ the solid state of water D. water
5. ______ the change from a liquid to a gas E. solid, liquid and gas
6. ______ the change from a gas to a solid F. melting
7. ______ the change from a gas to a liquid G. water vapour
8. ______ the liquid form of water H. sublimation
9. ______ the change from a solid to a gas I. evaporation
10. ______ water in the gas state J. freezing

TRUE OR FALSE: Place a T on the line if the sentence is true. Place an F on the line if the sentence is false.

1. ______ You add heat to evaporate a liquid.
2. ______ You cool a gas to condense it.
3. ______ The temperature goes up while water is boiling.
4. ______ Ice melts at 0 °C.
5. ______ The molecules move slower when heat is added to a liquid.
6. ______ Heat is added when you freeze water.
CHANGING STATES OF MATTER
Answer the following questions in the space provided.

1. What happens to the motion of the molecules in a substance when it is heated? Be specific. 
   the molecules will move faster as they are heated or gained energy.

2. What happens to the motion of the molecules in a substance when it is cooled? Be specific. 
   The molecules lose energy and they slow down.

3. Freezing is when a liquid turns into a solid.

4. When freezing occurs is heat added to or removed from the substance? Explain. 
   Heat is removed. Particles move slower in a solid than liquid. Therefore, to form a solid, have to slow down particles by removing heat.

5. Melting is when a solid turns into a liquid.

6. When a solid turns directly into a gas, we call it sublimation.

7. When melting occurs is heat added to or removed from the substance? Explain. 
   Heat is added. Particles move faster in a liquid than solid. To form a liquid, have to speed particles up by heating them.

8. Condensation is when a gas turns into a liquid.

9. When condensation occurs is heat added to or removed from the substance? Explain. 
   heat is removed. Particles move slower in liquid than gas. Have to slow particles down by removing heat.

10. Condensation is the opposite of evaporation.

11. Evaporation is when a liquid turns into a gas.

12. When evaporation occurs is heat added to or removed from the substance? Explain. 
   heat is added. Particles move faster in gas than liquid. Have to speed particles up by adding heat.