

## Changes Of State

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

- |   |   |
|---|---|
| 1. <u>  F  </u> the change from a solid to a liquid | A.ice   |
| 2. <u>  E  </u> the states of matter                | B.sublimation <span style="color: red;">deposition</span> |
| 3. <u>  J  </u> the change from a liquid to a solid | C. condensation   |
| 4. <u>  A  </u> the solid state of water            | D. water  |
| 5. <u>  I  </u> the change from a liquid to a gas   | E. solid, liquid and gas                                  |
| 6. <u>  B  </u> the change from a gas to a solid    | F. melting  |
| 7. <u>  C  </u> the change from a gas to a liquid   | G.water vapour  |
| 8. <u>  D  </u> the liquid form of water            | H.sublimation   |
| 9. <u>  H  </u> the change from a solid to a gas    | I.evaporation   |
| 10. <u>  G  </u> 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.   T   You add heat to evaporate a liquid.
2.   T   You cool a gas to condense it.
3.   F   The temperature goes up while water is boiling.
4.   T   Ice melts at 0 °C.
5.   F   The molecules move slower when heat is added to a liquid.
6.   F   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