Unit 6 Lesson 6 Notes

I. The three most familiar states of matter are solid, liquid and gas.

II. A change of state is the change of a substance from one physical form of matter to another.

III. When a substance gains or loses energy, its temperature changes or its state changes.

IV. During a change of state, the motion of the particles changes.

V. Particles can break away from each other and gain more freedom to move.

VI. During a change of state, a substance must gain energy from the environment or lose energy to the environment, but the total amount of energy is conserved.

VII. Each change of state represents a transfer of energy either into or out of the water cycle from the surrounding environment, but energy is never created or destroyed.

VIII. Particles in a liquid can slide past each other, but particles in a solid can only move enough to vibrate.

IX. Removing energy from a liquid can cause it to change to a solid as the particles stop sliding past each other.

X. The change in state in which a liquid becomes a solid is called **freezing.**

XI. When a liquid is cooled, its particles have less energy than they did before.

XII. When a solid is warmed, its particles have more energy than they did before.

XIII. This change of state from a solid to a liquid is called **melting.**

XIV. Some particles gain enough energy that they escape from the surface of the liquid and become a gas.

   A. This process is called **evaporation.**

XV. A rapid change from a liquid to a gas, or vapor, is called **boiling**.

A. This change takes place throughout a liquid, not just at the surface.

XVI. The attraction between particles overcomes the speed of their motion, and a liquid forms.

XVII. This change of state from a gas to a liquid is called **condensation.**

XVIII. Condensation is the reverse of evaporation.

XIX. Dry ice is frozen carbon dioxide

XX. It changes from its solid state directly into a gas.

XXI. The change from a solid state directly into a gas is called **sublimation.**

XXII. In physical science, **deposition** is the change in state from a gas directly into a solid.

XXIII. Deposition is the process by which ice crystals form in clouds.