Name_____Date_____Class____

2.3 States of Matter Notes

All matter on earth and in the universe occurs in the form of a _____, _____, _____, or _____

Solids

- Solids are substances with _____ packed particles, which can be ions, atoms, or molecules.
- Most solids are _____ structures, because the particles are arranged in regular geometric patterns
- Solids have definite _____ and _____
- _____ is not crystalline, because its atoms are arranged randomly
- Glass forms when liquids are _____ so rapidly, they don't have time to form crystalline structure

Liquids

- At any temperature above absolute zero, the atoms in a solid _____.
- At the _____, they vibrate fast enough to break the forces holding the solid together.
- The particles can then slide past each other, and become a _____.
- Liquids have definite _____, but not shape

Gases

- When the particles in liquids vibrate vigorously, some particles can sufficient energy to escape the liquid
- The process of changing from a liquid to a gas is called _____
- In gases, particles can be far_____
- _____definite shape or volume

Plasma

- When matter is heated to a temperature above 5000 degrees, the collisions between particles are so violent, the _____ get knocked away from the atoms.

- These hot, highly ionized, electrically conducting gases are called _____.
- Example: _____, _____, _____

Changes of State

- The point at which solids absorb enough energy to break their crystalline structure and turn into liquid is called the _____.
- When liquids cool, they solidify at the same temperature and release _____
- When a liquid is heated to the boiling point, and absorbs enough energy, _____ occurs and it becomes a gas
- When a gas is cooled to the boiling point and becomes a liquid, _____ occurs and energy is released
- The slow change of state from a solid to a gas, without a liquid intermediate, is called _____

Draw changes of state figure here: