**States of Matter**

**What is matter?** – Everything on this earth that has mass and occupy space

(volume) such as: air, water, plants, soil, forest, rays etc.

• **State of matter**: Matter exist in three states: gas, liquid, and solid

• **What is chemistry?**

Chemistry is the study of matter in regards to its:

• Composition (what it is made of)

• Structure (shape or form)

• Properties (descriptive behavior)

• Reactions (how it responds to different conditions)

 It is involved in everything we do in our daily activities (eating, washing clothes, etc)

**Text.1 States of Matter**

**Read the text carefully then find meanings to the words written in bold.**

There are four main **states of matter**: **solids, liquids, gases** and **plasmas**. Each of these states is also known as a **phase**. Elements and compounds can move from one phase to another phase when special **physical forces** are present. One example of those forces is **temperature**. The phase or state of matter can change when the temperature changes. Generally, as the temperature rises, matter moves to a more active state.

Phase describes a physical state of matter. The key word to notice is physical. Things only move from one phase to another by physical means. If **energy** is added(like **increasing** the temperature or increasing pressure) or if energy **is taken away** (like **freezing** something or **decreasing** **pressure**) you have created a physical change.

One compound or element can move from phase to phase, but still be the same substance. You can see water **vapor** over a boiling **pot** of water. That vapor (or gas) can **condense** and become a **drop** **of water**. If you put that drop in the freezer, it would become a solid. No matter what phase it was in, it was always water. It always had the same chemical properties. On the other hand, a **chemical** **change** would change the way the water acted, eventually making it not water, but something completely new.

1. What is a ‘phase transition’? Insert the following terms into the phase transition scheme. Then find their scientific definitions.

melting condensation deposition vaporization

ionization deionization freezing sublimation

**2. Choose the corrects answer**

1. What is the term used to describe the phase change as a liquid becomes a solid?

evaporation condensation freezing

2. What term is used to describe the phase change of a solid to a liquid?

Freezing melting boiling

3. What is the term used to describe the phase change of a liquid to a gas?

boiling condensation melting

4. Of gases, liquids, and solids, what is the densest state of matter?

solids liquids gases plasmas

**3. Find the synonyms of the following expressions in the article.**

phase of matter rise of temperature drop of temperature

**4. What is the meaning of the following words? Which changes of state do they correspond with?**

melting point boiling point freezing point

**5. What is the difference between:**

melting point – melting pot boiling point – boiling pot

**6. What is the difference between chemical and physical forces?**