

Standard:#1-3  
Chemistry  
Physical and Chemical Changes

Vocabulary

1. This indicates a new solid is being formed?

Precipitation

2. Term used to describe a gas converting to a liquid.

Condensation

3. Dry ice or solid carbon dioxide converts to a gas skipping the liquid phase. What is the name for this phenomenon?

Sublimation

4. Frost forming on the wind shield of a car is a phase change from gas directly from a gas to a solid. What is the name for this phenomenon?

Vapor deposition

5. Water boils at 100 °C and 212 °F.

6. Under standard conditions solid water can be no higher than 0 °C.

7. A standard incandescent light bulb burns out because of Sublimation

8. Vaporization is the transformation of a liquid to a gas at its boiling point but evaporation is the transformation of liquid to a gas when not at its boiling point.

9. Warm air holds more moisture than cold air therefore when warm air is cooled water converts from a gas to a liquid as a part of condensation.

10. Water or ice turns from liquid to a solid at 0°C. This is referred to as freezing what is a better term for this process.

Solidify

**Determine if the following are Chemical or physical changes. Indicate why.**

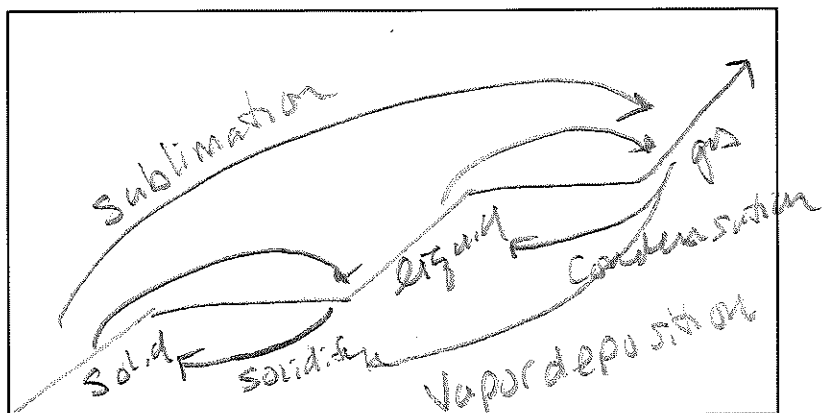
1. Cutting a persons hair. Physical - No New Substance.
2. Water evaporating off a sidewalk. Physical - Phase Change
3. Opening a can of soda releasing gas. Physical - No New Substance

4. Leaves turning from green to brown during fall. *Chemical - color change*
5. Cooking a hotdog over a campfire. *Chemical, New substance*
6. Mixing clear lead (II) nitrate with clear potassium Iodide forming a new yellow substance. *Precipitate - New substance (chemical)*
7. Burning of gas in your automobile on the way to school.
8. Campfire. *Chemical - New substance - gas evolution - energy*
9. Sharpening a pencil. *Physical manipulation*
10. Formation of a liquid on your mirror during a morning shower. *physical condensation*

**Graph - Draw a picture of a graph of Temperature vs. particle movement.**

Label the following

- Solid
- Liquid
- Gas
- Solidify
- Melting
- Sublimation
- Vapor deposition
- Vaporization
- Condensation



**Critical thinking?**

A paper bowl, filled with water sits on a Bunsen burner boiling water without burning the bowl explain.

*energy goes into phase change  
Not into warming the substance.*

In a lab this spring we will be making soap by combining lard (fat) with lye (sodium Hydroxide). The first step is to melt down the lard. The instructions indicate to heat the lard to 80°C. This is about 10 degrees above the melting point of lard. Most groups heat the lard and notice a very slight temperature change until the very end the temperature skyrockets past the 80°C. Explain possible reasons for the sudden increase in temperature.

