

Name
Chemistry
Physical and Chemical Changes

Vocabulary

1. This indicates a new solid is being formed? ^{From rxn}
precipitate
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?
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 a physical change - ^{melts}

(usually no O_2 present) if O_2 present - oxidizes - chemical change

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.
solidification

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

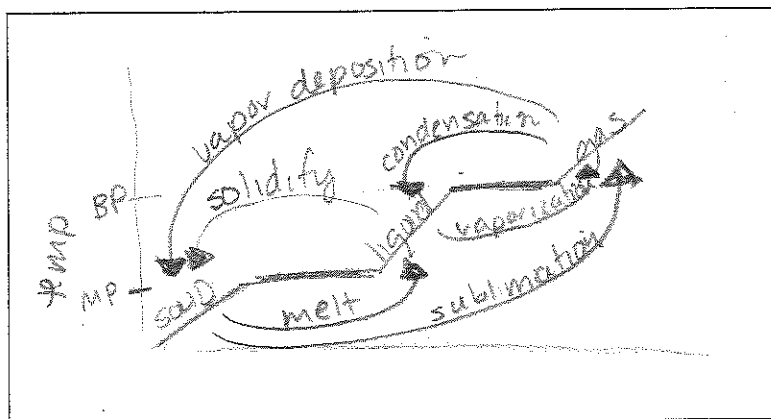
1. Cutting a persons hair. P - no rxn
2. Water evaporating off a sidewalk. P - no rxn, phase change
L → G
3. Opening a can of soda releasing gas. P - no rxn, phase change
L → G

4. Leaves turning from green to brown during fall. C decay
5. Cooking a hotdog over a campfire. C rxn, new substance
6. Mixing clear lead (II) nitrate with clear potassium Iodide forming a new yellow substance. C - new substance
7. Burning of gas in your automobile on the way to school. C - rxn - combustion new substances
8. Campfire. C - rxn; combustion new substances
9. Sharpening a pencil. P - no rxn
10. Formation of a liquid on your mirror during a morning shower. P - no reaction - phase change $g \rightarrow l$

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.

Water boils at 100°C , keeping the paper cool enough that it will not ignite.
Paper ignites at $\approx 233^{\circ}\text{C}$.

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.

