

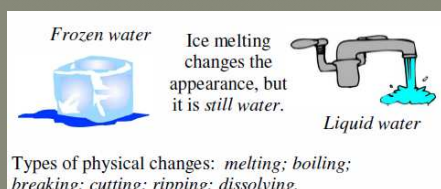
Physical vs. Chemical changes and "The Code"

Notes
Chem Lab
Homework

Word/Term: Chemical Reaction	Drawing:
Describe in own words:	
Textbook Definition:	
How I remember it:	Reflections:
	Rate my Understanding: 1 2 3 4

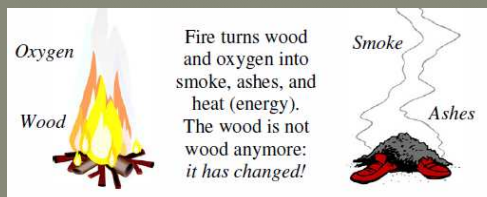
Physical Changes

- A substance changes appearance, but it is still that substance

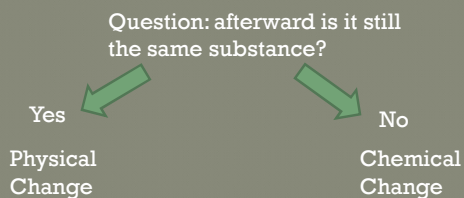


Chemical Changes

- A substance actually changes into something else



Physical vs. Chemical Changes



Evidence of a Chemical Change

- Bubbles**
 - A new gas formed
 - Soda pop fizzling is a physical change though
 - The soda tastes the same
- Turns Cloudy**
 - A new solid (a precipitate) formed

Evidence of a Chemical Change

- Temperature changes
 - Chemical bonds broke or formed, creating or releasing energy
 - Exothermic
 - Reactions get hot because energy is exiting
 - Endothermic
 - Reactions get cold because energy is entering

Evidence of a Chemical Change

- Color changes
 - A new substances form
- Change in smell or taste
 - New substance is formed

Lab Safety

Chemical Reactions can be dangerous! Mixing **Ammonia and Chlorine bleach** (common cleaners) make **poisonous chlorine gas!** Also, **bleach and vinegar** make **poisonous mustard gas!**

If you mix chemicals and notice a chemical change: be safe, get out! You may have made something dangerous.

Lab Safety

Your tongue and nose are **VERY** sensitive and accurate chemical detectors, **BUT BE VERY CAREFUL:** some chemicals can be harmful or even fatal.

Waft, Don't Smell! - Use your hand to waft (wave) some of the smell toward you, if you are instructed to smell a chemical by your teacher.

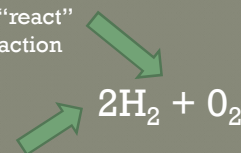
Reading the Chemical Reaction "Code"



The *arrow* means "produces" or "yields" (or "turn into")
It always points *from reactants to products*

Reactants

Reactants are on the left side. Reactants "react" in a chemical reaction



A *coefficient* shows the number of molecules
2 H_2 means 2 hydrogen molecules for a total of 4 hydrogen atoms

Coefficients



2 Lithium Nitride molecules

How many Atoms are there?

Products

Products are on the right side.
Products are "produced" in a chemical reaction



A subscript shows how many atoms (or ions) in a formula

Coefficients



How many Atoms are there?

Physical vs. Chemical Changes
1B Lab

Letacia Butler
Bailey McNally
Taylor Drake
Taylor Woods
Kristen Bennett
Josue Castro
Abby Kapitanich
Kylie Cheney
Levi Cayford
Alexus Pittman

Break up into 3 groups

The Rest of the Class
Your homework is due at the end of the class period
You may not work in groups

Physical vs. Chemical Changes
4B Lab

Michale Hibnes
Jacob Bridges
Jackson Ramsey
Justin Hone
Joshua Draper
Sonya Garcia
Aurora Pentland
Alejandro Herrera
Thalyr Holloway
Jake Grant
Jacob McQuade
Shelbie Paynter
Skylar Emmett
Johanna Cruz
Emily Black-Daly
Chaze Franke
Erayin Nunez
Maddie Loar
Alexys Ousenda
Levi McWharpy
Conchita Morales
Heather Lyte

Break up into 7 groups

The Rest of the Class
Your homework is due at the end of the class period
You may not work in groups