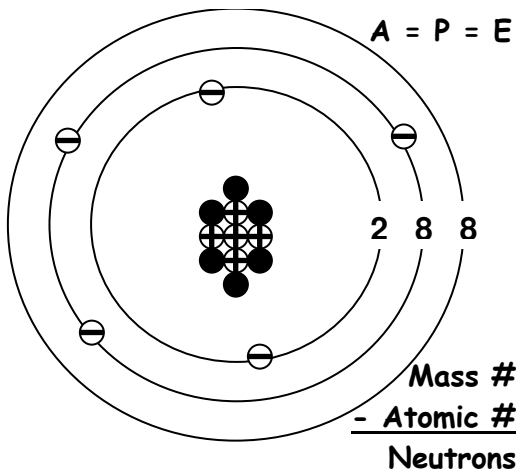


## PARTS OF AN ATOM

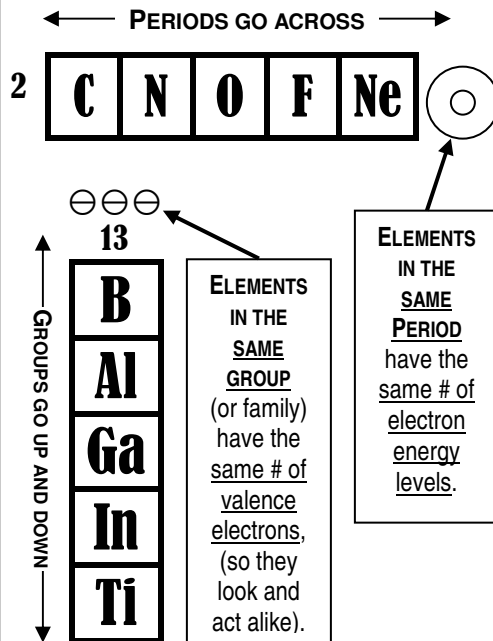


Mass #  
- Atomic #  
Neutrons

Key	
⊕	Protons
●	Neutrons
⊖	Electrons

5
<b>B</b>
10.81
Boron

## PERIODIC TABLE



## Physical change vs. Chemical change

Same substance, but new shape OR phase change

Straight iron nail  
Bent iron nail (new shape)

A new substance must be formed

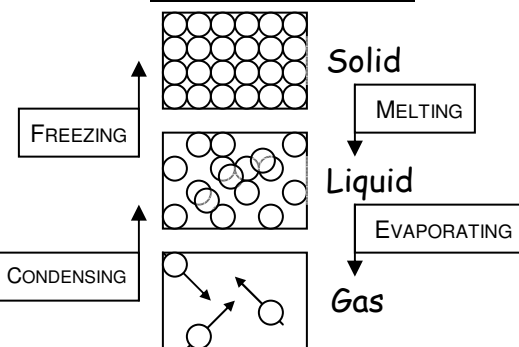
Iron nail (Fe)  
Rusty nail (FeO<sub>2</sub>)

### 4 signs of a chemical change

1. temperature change (hotter or colder)
2. color change (nail rusting)
3. gas forms (bubbles)
4. precipitate forms (stuff falls to bottom)

↘ Exothermic reaction = heat given off ↗  
↘ Endothermic reaction = heat absorbed ↗

## STATES OF MATTER



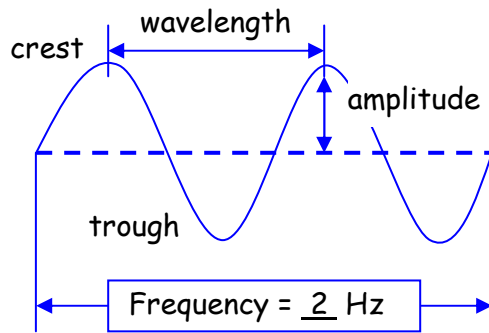
### Mixture

- Substance + substance
- Easily separated

### Solution

- Solute + solvent
- NOT easily separated

## PARTS OF A WAVE



### 2 TYPES OF WAVES:

Mechanical	Electromagnetic
Need a medium	Travel thru space
sound waves water waves	radio waves, light waves, x-rays

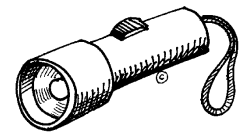
## FORCES, MOTION & ENERGY

### Newton's 3 Laws of Motion

**Inertia** Objects at rest, stay at...etc.  
**F = ma** Force = mass x acceleration  
**Action-Reaction** - For every action there is an equal and opposite reaction

☀️ **Energy can't be created or destroyed, only transformed** ☀️

Energy transformations found in a flashlight:



chemical → electrical → light

## SCIENTIFIC METHOD

1. State the problem 🧐
2. Form Hypothesis 📝
3. Test Hypothesis 🔍
4. Analyze Data 📊
5. Make a conclusion 📌

### VARIABLES IN AN EXPERIMENT

**Independent variable** - What you changed

**Dependent variable** - What you measured

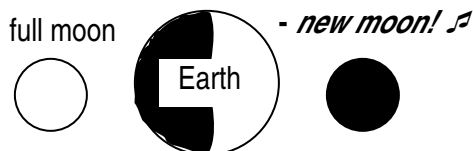
**Controlled variable** - What you kept the same

## EARTH, SUN & MOON



- Earth ROTATES on its axis (24 hours).
- Earth REVOLVES around the Sun (1 yr).
- The Earth's tilt (23.5°) causes the seasons.

🎵 Always look on the bright side of Earth -- new moon, new moon --



## ROCK CYCLE

