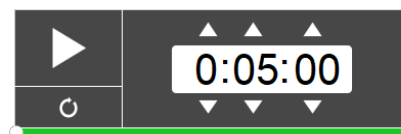


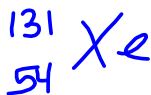
## Warm Up



- TG How many protons does bromine have? 35
- 'G Which element has mass number 207? Lead Pb
- ,G What is the atomic number for copper? 29
- IG How many neutrons does argon have? 22  
 $40 - 18 = 22$
- uG Which element has 55 electrons? Cs (Cesium)
- G Write the standard atomic notation for potassium.  
 ${}_{19}^{39}\text{K}$       39, 19

## In Class Assignment

- TG Which subatomic particles have the same mass?
- 'G Which subatomic particles are found in the nucleus?
- ,G What is the atomic number for ytterbium?
- IG How many neutrons does neon have?
- uG Which element has 67 electrons?
- G Write the standard atomic notation for xenon.

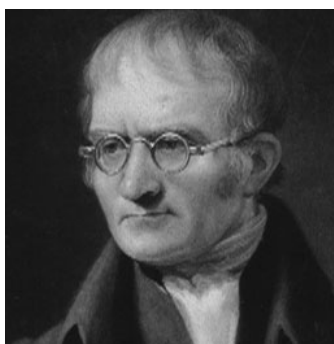


# Atomic Theory

### Early Philosophers

- Empedocles - there are 4 elements: water, fire, earth and air
  - > These 4 elements mix together to form different substances
  - > Aristotle agreed with Empedocles and this model was accepted for 2000 years!
  
- Democritus - said matter was made of tiny particles called "Atoms" that couldn't be broken down further
  - > This was rejected because Socrates did not accept it.

## Dalton



Atomic Model  
(Billiard Ball)



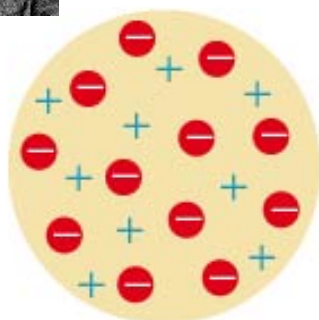
1. Atoms cannot be created, changed or destroyed through chemical reactions
2. Atoms are small, spherical particles
3. Each element has its own unique atom
4. Compounds are created when atoms of different elements link to form molecules

**BUT...Dalton's model couldn't explain some things - like why we get a spark when you touch a metal door knob on a cold dry day.**

## Thomson



### Raisin Bun

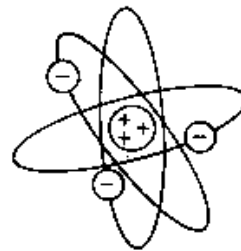


1. He discovered negative particles which he called "electrons" and said they had to be part of the atom
2. Electrons are spread throughout a positively charged sphere
3. An atom is neutral (positive cancels negative)

## Rutherford



Nuclear

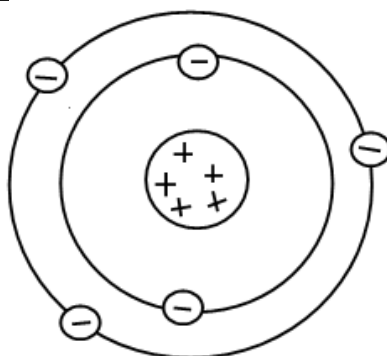
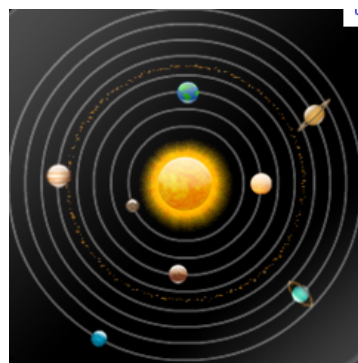


1. Described the center of the atom as a positive "nucleus"
2. Nucleus surrounded by moving electrons
3. Introduced the "proton"

## Bohr



Planetary



1. Electrons move around the nucleus in paths called "orbits"  
(shells, energy levels)
2. There are specific rules for which orbit electrons will be found in.



## Attachments

---

answers - atomic models.pdf

science journal.notebook