

# Bing-Bing-Toe !!!

Match #1:  
**Foundations**  
**Nuclear**

# BING-BING-TOE GAME RULES

		<b>FREE Space</b>		

# Bing-bing-toe game rules

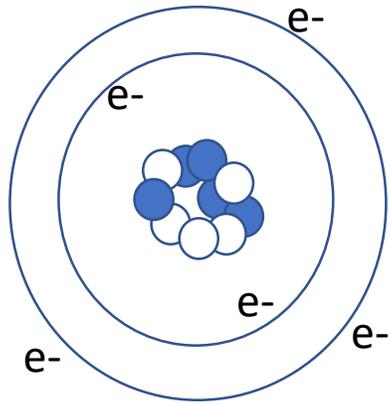
- **Right side of room – X      Left side of room – O**
- **2 players from each team go head to head (standing by opposite team)**
- **Team may not help! Teams lose points for trying to distract the other team or help their team with answers.**
- **1st to hold up board with correct answer gets to play a square.**
- **Each BING-TOE = 1 point**

**How many atoms are in one  
molecule of  $\text{Al}(\text{OH})_3$  ?**

**What particle did Thompson discover  
and which experiment proved it?**

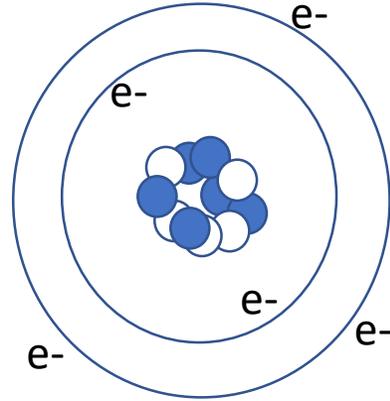
**What Three parts of Dalton's theory  
remain true today?**

# Do any of these atoms represent isotopes? If so, which ones and why?



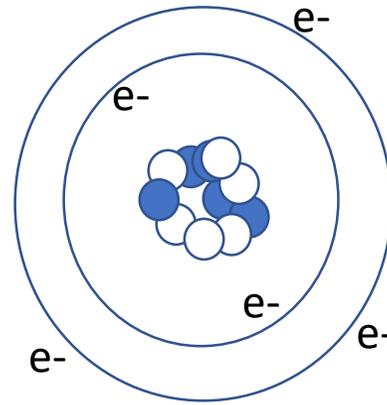
**Atom A**

5 protons  
5 neutrons  
5 electrons



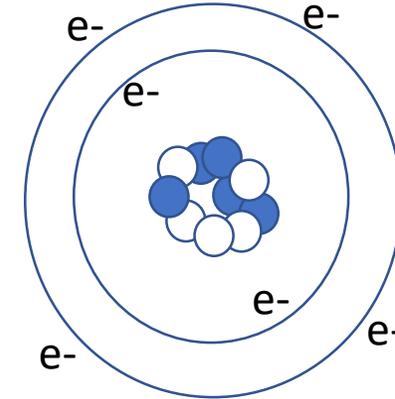
**Atom B**

6 protons  
5 neutrons  
5 electrons



**Atom C**

5 protons  
6 neutrons  
5 electrons



**Atom D**

5 protons  
5 neutrons  
6 electrons

**What Two parts of Daltons theory  
Have been proven false?**

# Name the phases of matter

**Name all phase changes and what phases the change is between**

**Draw a diagram for Rutherford's Experiment. Explain what it proved about atomic structure**

**Name an element with similar  
properties to iodine.**

# How do you calculate mass number?

**How many valence Electrons do the Halogen elements have?**

**Define chemical change and physical change. Give an example of each.**

**Name the three subatomic particles  
and give their relative masses.**

**Convert 15mi/day into in/sec**

**Classify Each Substance Below as:  
Pure Substance (element or compound)  
Mixture (homogeneous or heterogeneous).**

**How many valence electrons do the alkali metals have and what is the charge of their ions?**

**What radioactive emission changes a neutron into a proton?**

**The half-life of thorium-227 is 18.72 days How many days are required for three-fourths of a given amount to decay?**

**What radioactive emission changes a neutron into a proton?**

**How many protons and neutrons are  
in the nuclei of Tl-204 atoms?**

**Uranium-235 undergoes alpha emission. What is the balanced eq.?**

**Neutron initiated fission of U-235 results in the release of 4 beta particles, the formation of Sr-90 and the release of another nucleus. What is the other nucleus?**

**Calculate the average atomic mass of Magnesium from these data. Magnesium occurs in nature in three isotopic forms:**

**Mg-24 (78.70% abundance)**

**Mg-26 (11.17% abundance)**

**Mg-25 (10.13% abundance)**

# What is nuclear fission?

**A substance has a density of 1.39g/ml. You have 10g of the substance. What volume (in L) do you have?**

**How many decigrams are in 437 kg?  
Write in scientific notation!**

**How many sig. figs are in the  
following values?**

**612 kg**

**0.00067 ml**

**309.4 g**

**Perform the calculation using  
accurate sig figs  
1.31 cm x 2.3 cm =**

**Perform the calculation using  
accurate sig figs  
8.264 g - 7.8 g =**

**A radioactive substance has a half life of 125 days. What percent is left after 1.45 years?**