

**STATION 1**  
CLASSIFYING MATTER

**True or False?**

- True 1. An element cannot be broken down into simpler substances.
- False 2. Compounds can be categorized as heterogenous and homogeneous.
- True 3. Mixtures are made up a variety of elements and compounds.
- True 4. Two or more elements chemically bonded together make a compound.
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Classify the following as an element, compound or mixture.

5. Oxygen: Element
6. Coffee: Mixture (homogeneous)
7. Sodium Chloride: Compound
8. Air: Mixture (homogeneous)
9. Tungsten: Element
10.  $C_{12}O_{22}H_{11}$ : Compound

I feel <b>confident</b> about the content.	A <b>little uncertain</b> and will require some review.	I definitely <b>need to review</b> this content.
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**STATION 2**  
SUBATOMIC PARTICLES

Element Symbol	Element Name	Atomic Number	Atomic Mass/Weight	Number of Protons	Number of Electrons	Number of Neutrons
F	Fluorine	9	19	9	9	10
Cd	Cadmium	48	112	48	48	64
Y	Yttrium	39	89	39	39	50
Pb	Lead	82	207	82	82	125

Fill in the following table:

Subatomic Particle	Charge	Location in the atom	Mass (heavy or light)
Neutron	neutral	Nucleus	Heavy (1 amu)
Electron	negative	Electron shells	Light (0.0005 amu)
Proton	positive	Nucleus	Heavy (1 amu)

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### STATION 3 SUBATOMIC PARTICLES

Element Symbol	Element Name	Atomic Number	Atomic Mass/Weight	Number of Protons	Number of Electrons	Number of Neutrons
Na	Sodium	11	23	11	11	12
C	Carbon	6	12	6	6	6
K / Ca	Potassium / Calcium	19 / 20	39 / 40	19 / 20	19 / 20	20


Determine the subatomic particle(s) described by the following statements:

- Has a charge: proton and electron
- Has the heaviest mass: proton and neutron
- Does not have a charge: neutron
- Has the lightest mass: electron
- Is found in the nucleus: proton and neutron
- Has equal masses: proton and neutron
- Gives the nucleus a positive charge: proton
- Is found in shells that surround the nucleus: electron
- Have equal quantities in all **neutral** atoms: proton and electron

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## STATION 4 PERIODIC TABLE

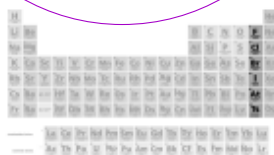
What is the name of the highlighted column/group on each Periodic Table?




Group name:  
Alkali Metals



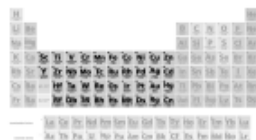
Group name:  
Alkaline Earth Metals



Group name:  
Halogens



Group name:  
Noble Gases



Group name:  
Transition metals

Circle the Periodic Table that has highlighted the most reactive metals.

Put a square around the Periodic Table that has highlighted the most stable elements.

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**STATION 5**  
**PERIODIC TABLE**

List all of the elements (name and symbol) for the following:

a) alkali metals family:

Hydrogen (H), Lithium (Li), Sodium (Na), Potassium (K)  
Rubidium (Rb), Cesium (Cs), Francium (Fr)

b) alkaline earth metals family:

Beryllium (Be), Magnesium (Mg), Calcium (Ca), Strontium (Sr)  
Barium (Ba), Radium (Ra)

c) the top row of the transition metals:

Scandium (Sc), Titanium (Ti), Vanadium (V), Chromium (Cr)  
Manganese (Mn), Iron (Fe), Cobalt (Co), Nickel (Ni)  
Copper (Cu), Zinc (Zn)

d) halogens family:

Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)  
Astatine (At), Tennessine (Ts)

e) noble gas family:

Helium (He), Neon (Ne), Argon (Ar), Krypton (Kr), Xenon (Xe),  
Radon (Rn), Oganesson (Og)

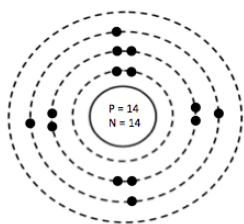
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## STATION 6 BOHR MODEL

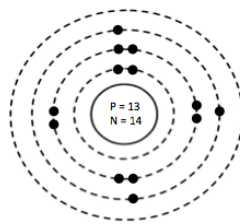
1. In a Bohr Diagram, what is the maximum number of electrons allowed in the:

- a) Innermost (first) shell? 2
- b) Second shell? 8
- c) Third shell? 8

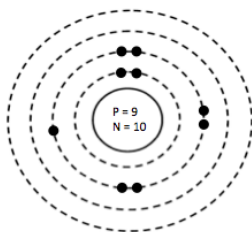
2. Identify the element represented by the following Bohr Diagram:



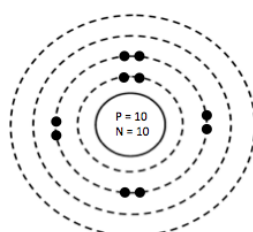
Element: Silicon



Element: Aluminum



Element: Fluorine

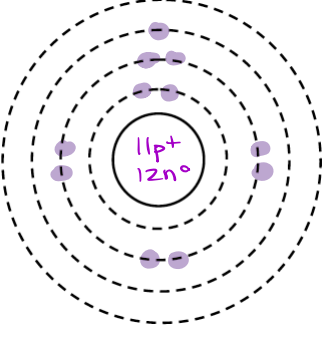
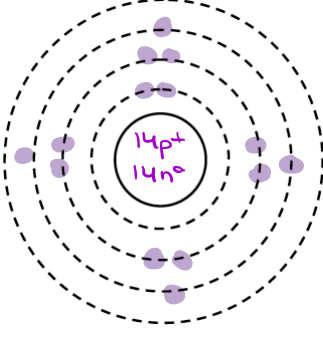
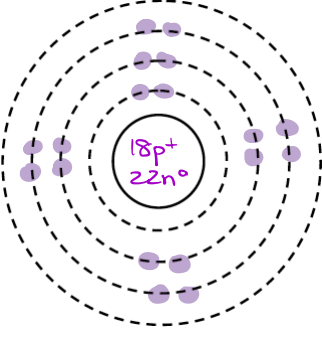
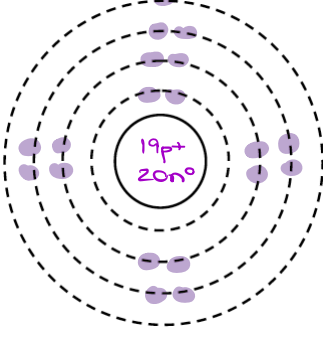


Element: Neon

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**STATION 7**  
**BOHR MODEL**

Draw the Bohr diagram for the following elements:

<p>Sodium</p> 	<p>Silicon</p> 
<p>Argon</p> 	<p>Potassium</p> 

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