

## Atom

Define the term atom.

## Protons, Neutrons and Electrons

Define these three terms.

Explain their charges. Explain where each particle is located within an atom.

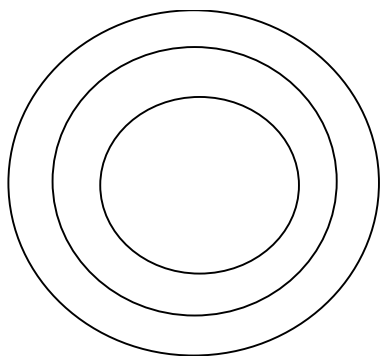
What is a **valence electron**?

Why are they important?

## Atomic Model

Draw any atom from the periodic table.

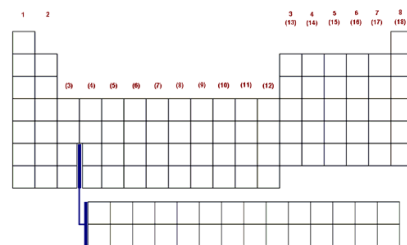
Label all of the parts.



## Periodic Table of Elements

Explain how the periodic table is set up.

Sketch the diagram below and indicate where groups, periods, metals, non-metals and metalloids are located.



## Chemical Groups / Families

What do groups/families have in common?

Name any two elements that have similar chemical properties.

What are the names of:

- the most reactive family
- the least reactive family
- the family of elements that won't bond with other elements
- the family that needs one valence electron to be complete

## Periods

- How do the properties of elements change as you move across a period?

## Metals, Non-Metals, and Metalloids

### Metals:

- Provide a short list of characteristics and three element examples.

### Non-metals:

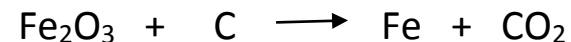
- Provide a short list of characteristics and some examples.

### Metalloids:

- Provide a short list of characteristics and some examples.

## Balancing Equations

Write step by step process of balancing the following reaction. Circle and label the coefficient and subscripts.



## Atomic Number

- Define this term.
- Select 10 elements and identify their atomic numbers.
- What is the difference between the atomic mass and atomic number?

## Atomic Models

Select any two elements between atomic numbers 1 – 18.

1. Draw each box from the Periodic Table.
2. Identify protons, neutrons, and electrons for each.
3. Sketch the Bohr model (atom)
4. Highlight the valence electrons in each model.

## Chemical and Physical Changes

- Create a Venn diagram contrasting **physical and chemical changes**. Include two examples of each in the Venn diagram.

## Chemical Reactions

**Define reactant.**

Look up the chemical equation for photosynthesis. Highlight the reactants.

**Define product.**

Look up the chemical equation for cellular respiration. Highlight the products.

## Law of Conservation of Mass

- What does the law state? Create a graphic to represent this definition.
- Create a chemical equation to represent the Law of Conservation of Mass.

# Matter: Properties and Change

By: First and Last Name

## Evidences of Chemical Reactions

Evidence	Description	Real Life Example
1.		
2.		
3.		
4.		

## Elements, compounds and mixtures

- Define element, compound and mixture. Include 2 examples of each one
- Draw a picture of what the particles if an element, compound and mixture would look like.
- What is the difference between homogenous mixtures and heterogeneous mixtures?