**Exploring the Elements Group Project**

**Goal:** To learn about a specific group of elements while focusing on two of the elements in the group and applying concepts learned about atoms, elements and the periodic table.

1. **Pick a topic from the list below**

**Element Group Topics – Two Elements must be researched for each group!**

|  |  |
| --- | --- |
| **Topic** | **Elements in Group** |
| Elements of Life (CHNOPS) | N and P |
| Elements of Life (CHNOPS) | O and S |
| Building Blocks of Life | C and H |
| Noble Metals | Pt, Ag Au, Ir, Os, Ru, Pd |
| Alkali Metals | Li, Na, K, Rb, Cs or Fr |
| Alkaline Earth Metals | Be, Mg, Ca, Sr, Ba, Ra |
| Trace Elements | **Cr Cu Mn Mb Zn Se** (Fe and I… are trace metals but not an option for in depth research as these elements are part of another group) |
| Rare Earth Metals | Look it up! Choose more common elements to research |
| Radioactive Metals | Look it up! Choose more common elements to research |
| Halogens | F, Cl, Br, I, At |
| Magnetic Metals | Fe Co Ni |
| Heavy Metals | Pb Hg Cd |
| Metalloids | B, Si, Ge, As, Sb, Te, Po, At |
| Noble Gases | He, Ne, Ar, Xe, Rn |

1. **Complete Library research sheet (On google ) (Feb 20 and 21)**

**Due Feb 22 (or earlier)**

* Information about the group (what are CHNOPS, what properties do halogens have in common? etc)
  + Global/ecological significance
  + Hazzards (if applicable)
  + Technology uses
  + Historical significance
* Chemical and physical properties of each element
  + State at room temperature
  + Reactivity with other elements
  + Compounds and ions formed
  + Atomic structure (draw out Bohr diagram)
  + Appearance (colour, texture, etc)
  + Where elements are found and relative abundance
  + Interesting facts about each elements and significance
  + Similarities and differences between elements (include placement in the periodic table)

1. **Create Draft Product (Newspaper or lift the flaps interactive booklet)**

**Due Feb 27**

* Must include pictures and illustrations (labelled and coloured)
* Introduction
  + must include information on the group
* Uses and where found in nature (include relative abundance)
* Physical and chemical properties
  + Must include a Bohr diagram
* Comparison of the elements
* Interesting facts and significance of elements to humans, life etc
* Creative piece (news article, poem, cartoon, etc)
* Interactive (game, quiz, matching, etc) (must include key)
* Bibliography (at least 5 properly cited sources)

1. **Peer edit in class on Feb 28**
2. **Create final product! Due March 1**