|  |  |
| --- | --- |
| Science 9 | Unit B |
| Section 2.2 – 2.3: Organizing the Elements | 84 Mins |

|  |  |
| --- | --- |
| **Organizing the Elements**  All Elements have a different mass (Atomic Mass)  **Finding a Pattern**  Using the Atomic Mass and other known properties, the 63 known elements were organized  This organization predicted new elements  Future elements were able to be placed in the gaps in the later years  **Periodic Table**  Periods – Horizontal Rows  Numbered 1 - 7  Left side are Metals, Right Side are non-metals  The period number tells you how many electron shells the element has  Groups (Family) – Vertical Columns  Numbers 1-18  Elements in the same group have similar properties  Element Symbols  One or two (Second always lowercase) letters representing the element  Same for all languages  Atomic Number  Number of Protons  (Same number of Electrons)  Atomic Mass  Total mass of all Protons and Neutrons  Metals  Shiny, Malleable, and conduct electricity  Non-Metals  Dull, Brittle, usually don’t conduct electricity  Metalliods  Both metal and non-metal properties  State  Solid liquid or gas at 20oC | Atomic Mass – the mass of one atom of an element  Mendeleev   1. Has 2 Elements   2-3) Have 8  4-5) Have 18  6-7) Have 32    Hydrogen Period 1: 1 Electron Shell  Draw  Chlorine Period 3: 3 Electron Shells  Draw (2 8 7)   1. Alkali Metals (Highly Reactive to Air or Water) 2. Alkali Earth Metals (Reactive to Air or water)   3-12) Transition Metals  17) Halogens Most Reactive Non-Metals  18) Noble Gases (Stable.. unreactive)  Carbon = C  Chlorine = Cl  Iron = Fe (Ferrum) |