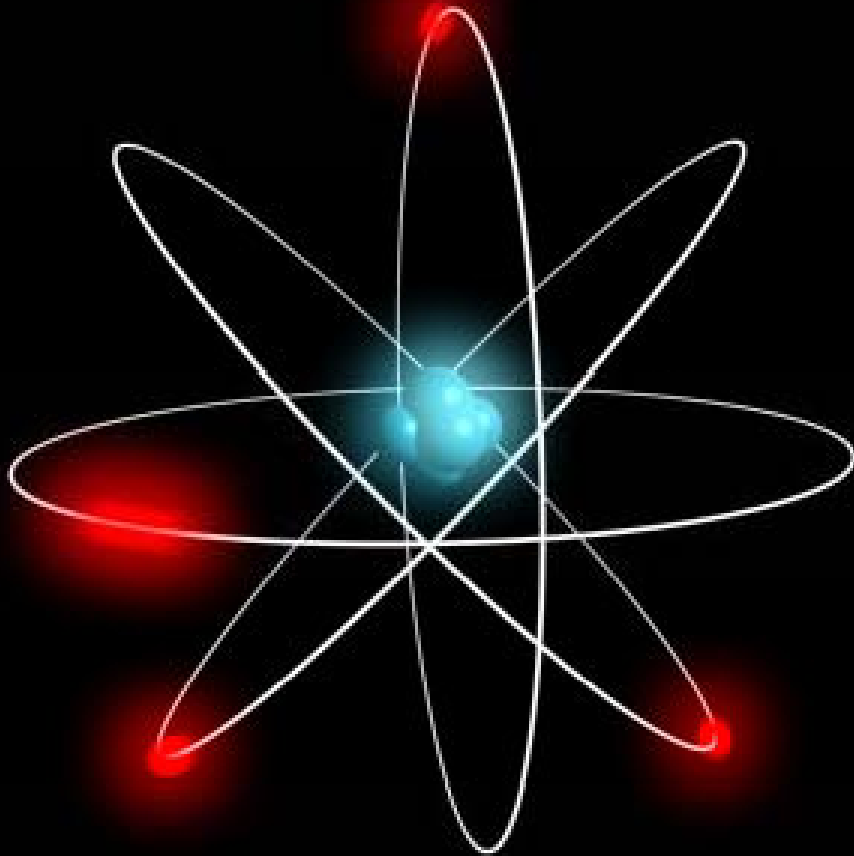
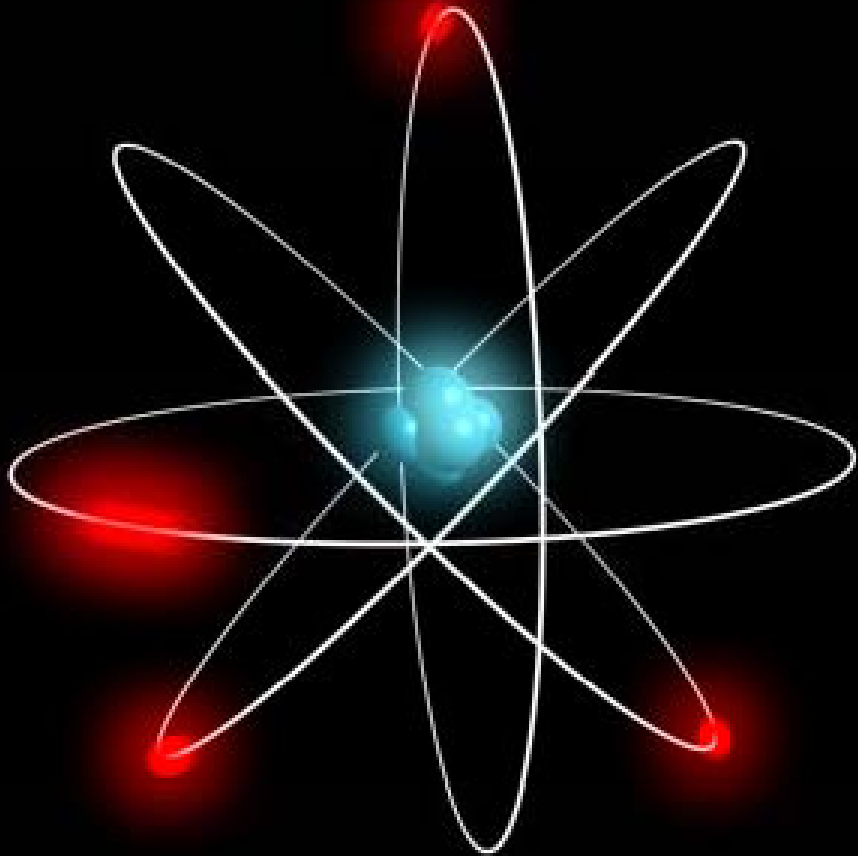


Physical Science
Mr. Bythwood

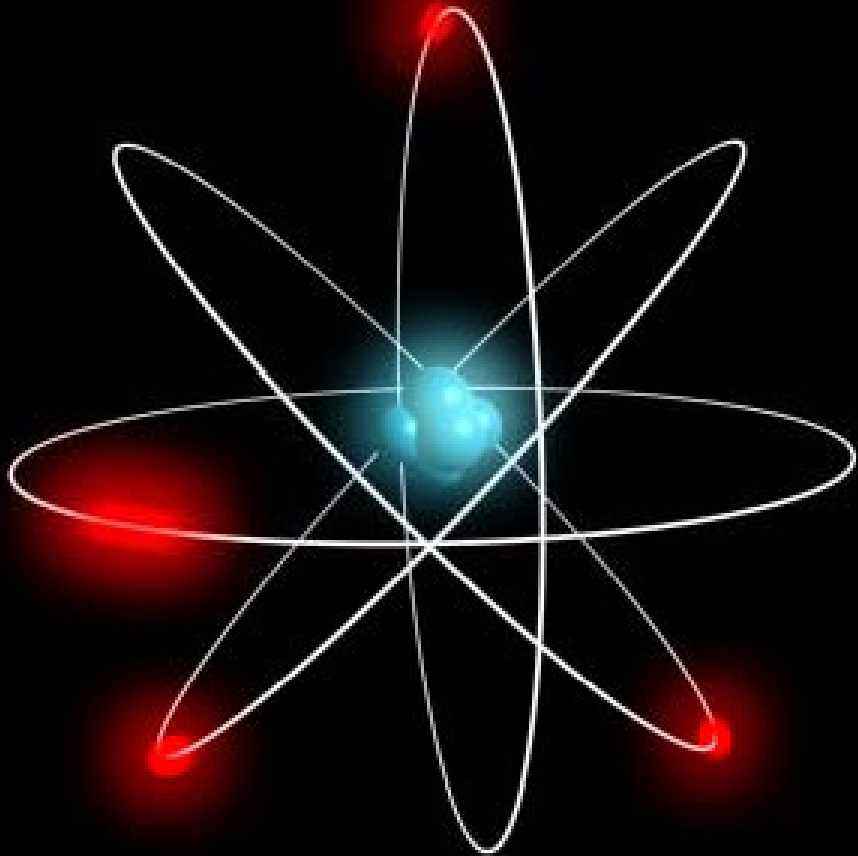
ATOMIC INVENTORY



- Protons (+): Atomic Number
- Neutrons: Atomic Mass minus Protons
- Electrons (-): Same number as Protons



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Atomic Particles

| Particle | Location | Mass in amu | Charge |
|----------|----------|-------------|--------|
| Proton | | | |
| Neutron | | | |
| Electron | | | |

Atomic Particles What is amu????

- amu is short for atomic mass unit

| Particle | Location | Mass in amu | Charge |
|----------|----------------|-------------|---|
| | | | <ul style="list-style-type: none"> 1 amu = $1.66053886 \times 10^{-27}$ kilograms |
| Proton | | | <ul style="list-style-type: none"> EXAMPLE: If you weigh 150 lbs, what is that in kilograms? |
| Neutron | 1 kg = 2.2 lbs | 150 lbs | $150 \text{ lbs} \left(\frac{1 \text{ kg}}{2.2 \text{ lbs}} \right) = 68.2 \text{ kg}$ |
| Electron | | | <ul style="list-style-type: none"> EXAMPLE: If you weigh 150 lbs, what is that in amu? |
| | | 68.2 kg | $68.2 \text{ kg} \left(\frac{1 \text{ amu}}{1.66 \times 10^{-27} \text{ kg}} \right) = 4.11 \times 10^{+28} \text{ amu}$ |

Atomic Particles

| Particle | Location | Mass in amu | Charge |
|----------|----------|-------------|--------|
| Proton | Nucleus | 1 | +1 |
| Neutron | Nucleus | 1 | 0 |
| Electron | Cloud | 0 | -1 |

Atomic Inventory

| Element | Symbol | Atomic Number | Mass Number | Protons | Neutrons | Electrons |
|-----------|--------|---------------|-------------|---------|----------|-----------|
| Helium | He | 2 | 4 | 2 | 2 | 2 |
| Magnesium | Mg | 12 | 24 | 12 | 12 | 12 |
| Iron | Fe | 26 | 56 | 26 | 30 | 26 |
| Argon | Ar | 18 | 40 | 18 | 22 | 18 |

Atomic Inventory

| Element | Symbol | Atomic Number | Mass Number | Protons | Neutrons | Electrons |
|----------|--------|---------------|-------------|---------|----------|-----------|
| Zinc | Zn | 30 | 65 | 30 | 35 | 30 |
| Bromine | Br | 35 | 80 | 35 | 45 | 35 |
| Aluminum | Al | 13 | 27 | 13 | 14 | 13 |
| Uranium | U | 92 | 238 | 92 | 146 | 92 |

Atomic Inventory

| Element | Symbol | Atomic Number | Mass Number | Protons | Neutrons | Electrons |
|---------|--------|---------------|-------------|---------|----------|-----------|
| Sodium | Na | 11 | 23 | 11 | 12 | 11 |
| Krypton | Kr | 36 | 84 | 36 | 48 | 36 |
| Calcium | Ca | 20 | 40 | 20 | 20 | 20 |
| Silver | Ag | 47 | 108 | 47 | 61 | 47 |

The End

- ◎ This presentation was created for the benefit of our students by the Science Department at **Howard High School of Technology**
- ◎ Adjustments made by Mr. Madigan and Mr. Spraggins
- ◎ Please send suggestions and comments to **rmay@nccvt.k12.de.us**