- Noise pollution is caused mostly by man in man areas.
- Light pollution is caused mostly by man in man areas.
- Toxic waste in water causes millions to lose water.
- Dead zones form when no life is living in a stretch of water.
- Algae bloom is caused when fertilizer causes allege to reproduce rapidly.
- "Red tides" and "Brown Tides" are cause objukt massive amounts of coloured again moving with the tides.
- Some algae is immereely poisonous
- Acid rain forms when elements from fossil fuel burning move into rain clouds and pollute the rain into an acid or base.
- This causes massive damage to wildlife and flora caught in corrosive showers.
- Plastics that get into oceans can harm the inhabitants for century's.

- Culmination of these plastics create "Ocean Garbage Patch's", great areas of rubbish where nothing can live.
- Global Warming causes increase in temperature.
- This leads to a whole myriad of effects including: species die out, Glacial Melting and biome depopulation.
- Sea levels rising leads to biome destruction.
- Seas warming leads to dying marine life.
- The worst industries for pollution are: Batery recycling, Mining, Livestock, magnattictory's.
- 13% of CO2 enrice lons comes field deforestation.
- Climate Change Leads to more violent and frequent weather phenomenon.

Elements Compounds Mixtures and Bonds.

- A Mixture is a combination of two or more substances
- An Element is a unique combination of electrons, protons and neutrons.
- A Solutions is another name for a Homogenous mixture.

- It is comprised of: Florine (F), Chlorine (CI), Bromine (Br), Iodine (I), Astatine (At), Tennessine (Ts).
- Column 18 is called the Noble Gases.
- It is comprised of: Helium (He), Neon, (N), Argon (Ar), Krypton (Kr), Xenon (Xe), Radon (Rn), Oganesson

Metal Properties

- Conductor Of Heat, eg Aluminium
- Conductor Of Electricity, eg.Cografe.CO.UK
 Lustrous, eg.Colon 4 of 56
 Denseness, ep.Colo
- Melting and Boiling Point, eg Platinum
- Tensile Strength, eg Steel
- Hardness, eg Tungsten
- Solid metals have a crystalline atomic structure
- Metals form with Metallic bonds.

Extraction Of Metals

- This Zinc plated iron is galled Galvanized Iron.

Bonus Facts P7

- Iron is the second most abundant metal in Terra's crust.
- .Aluminium is sold with an oxide coting to increase attractiveness.

The Haber Prosses P1

- Exothermic reactions transfer energy to the surroundings, whether heat or otherwise.
- E.g. Combustion, Oxidisation and Neutralisation.
- Endothermic Reactions take energy from surrounds, normally in the form of heat.
- E.g. Electrolysis, the reaction between ethanoic acid and sodium carbonate and thermal decomposition.
- Reversible reactions are also possible of as Ammonium chloride.
- The Haber Process is started when him gen combines with hydrogen from the air, derived mainly from methane, into enmonia. The reaction is reversible and the production of ammonia is exothermic.
- The catalyst for The Haber Process is iron and potassium hydroxide as a promoter.
- The pressure is different from each lab but as a rule use 200 atmospheres.
- Haber process is made for fertilizer production as Ammonia is turned into Ammonium Nitrate, which is a fertilizer.
- At each reaction cycle only around 15% of the nitrogen and hydrogen is turned into Ammonia, the leftover gases are recycled into the chamber again, give the conversion rate a figure of about 98%.
- The process is 3 parts hydrogen and 1 part nitrogen.

 Avogadro's law states that equal volumes of gases at the same temperature and pressure will contain equal amounts of molecules. This means that the gases are 1 part nitrogen and 3 parts hydrogen when entering the reactor. This is what is determined by the equation.

Haber Process Notes Part 2

- In the years following WWII Europe was in dire need of food in a comparable way to Africa is today.
- So, the Haber process was invented by Fritz Haber and Carl Bosch.
- In the short term, it was a innovative idea as it increased the crop production, however in the long term it drevall the nutrients out of the soil and made entre Cretches of land barren
- There were two separate ways the Haber process could have been done, the increase viability on a large scale.
- This lead to the industrialising of agriculture
- This changed the view of agriculture that the world held.
- Due to old agriculture having a three-step system to growing with one bed lying dormant for a cycle while 2 others are growing, with this changing every year so no bed grows for longer than 2 years. This allows for replenishment of the nutrients in the soil.

Aluminium: Lightweight material. Alloy 6061 (aeroplane body and chassis material).

Zinc: Galvanisation metal or Sacrificial metal, mostly iron and steel, to prevent rusting of the main body the zinc is layered on top so it rusts first. Zamak (Several types based on forging and process) (Firearms production and common household equipment).

Iron: Building, Bodies of different appliances. Steel (Diverse Types based on forging and process) (Structural engineering, household appliances, chassis of certain cars and trucks, toys, high quality kitchenware, weapon production (firearm or melee).

Copper: Wires, Bronze alloy component (Bronze age). Bronze (Several types based on forging and process) (Electrical Contacts, sculptures, musical interments).

Silver: Jewellery, Mirror Production. Sterling Silver (Several types based on forging and process) (Breated Circuits, Photography, Antibacterial clothing particles)

Gold: Jewellery, Electronics, Bullion. Carat Gold (Several types based on coloring and process) (Jewellery, Gold Leaf for decoration, circuit boards, microchips, wires, electrical connectors).

Crude Oil And Plant Oils

- Crude oil was discovered in ancient times by an unknown person/persons.
- It was used by different cultures for vastly different things.
- The ancient Egyptians used it for mummification and to seal pyramids.

Sulphur

- Pure Sulphur is odourless and tasteless.
- Sulphur is a multi-shelled non-metal.
- Sulphur in its natural form is a yellow crystal.
- Sulphur is required for human life as it makes up the amino acid methionine.
- Sulphur is used in many assorted products.
- Such as rubber, paints, paper and sugar.
- Sulphur is the thirteenth most abundant element in terra.
- Brimstone is a form of Sulphur that is retrieved from oil and gas recovery.
- Sulfuric acid is created then Brinsone is burned in special equipment.
- Buffere Acid is the Osrids most used chemical.
- This is because it has so many different uses.
- Sulphur is an essential nutrient for plants.
- It is also becoming deficient in many areas due to over industrialization of agriculture.
- Bitumen or Sulphur asphalt is a form of quick drying road surfacing the is formed with Stones, Sand and other assorted substances.
- Sulphur Dioxide is a colourless, soluble gas with a pungent odour like rotten eggs.
- Sulphur Dioxide forms Sulphurous Acid when mixed with water.

- The by-product of this is oxygen, the key component for all known forms of non-plant life.
- This process is one of the key parts of the Fast carbon cycle.
- The Greenhouse Effect is the term given to a phenomenon which is occurring currently.
- Increases in heat trapping gases, also given the name greenhouse gases, cause U.V radiation to stay trapped under the atmosphere longer, there-by causing an increase in heat.
- Greenhouse gases include but are not limited to carbon dioxide, carbon monoxide and methane.

Radioactivity

- Elements are radioactive because their atoms are unstable.
- This outputs radiation in the torn of Alpha and Beta partens and Gampa Rays.
- Gamma Rays are used predominantly as the reason the Hulk exists, however exposure like what the Hulk underwent would cause a level of cancer that has never been seen before instead of transforming you into a green rage monster.
- Because of the nature of Radioactivity, the elements Nuclei decay every second, this is measured in Becquerels, or the number of Nuclei that decay every second.
- Because of the finite number of Nuclei in an atom the rate of radioactivity decreases over time.

- Nuclear Fission is the act where-by elements are split apart at the atomic level. This creates an infinitesimally small amount of power.
- Two of the most common isotopes used in Nuclear fission are uranium-235 and plutonium-239.
- When uranium-235 or plutonium-239 are hit by a neutron three things happen.
- 1. The Nucleus of the isotope splits into 2 daughter Nuclei, both of which are radioactive.
- 2. Two or three more neutrons are released.
- 3. Some infinitesimally small amount of energy is released.
- The Neutrons that were ejected may hit other atoms, creating what is known as a Nuclear Chain-Reaction.
- Nuclear Power is created though the peet generated by Nuclear Fission, this then the water which turns turbines, which then creates power.
- Nuclear Fishion is the process whereby individual
 Nuclei are fusial accepter to form a larger Nucleus.
- Nuclear fusion involves atoms, in this example a deuterium and a tritium, nucleus colliding and being forced together.
- However, they both have positive charges so repel each other. This means that for them to create fission they would need to be moving incredibly fast and be incredibly hot. Therefore, nuclear fission has only been created in the Large Hadron Collider.
- Tracers are Radioactive particles which leave pathways which can be followed. Often used in medical studies.