

Space Unit

- Know about the earth's rotation (How long it takes and what does it cause?)
- Know about the earth's revolution (How long it takes and what does it cause?)
- Know which planets are terrestrial planets and which are gas giants
- Know the orbital period of earth
- What is a light year?
- What is a constellation, nebula, black hole, super nova?
- Asteroid belt and between which planets
- Name of the 2 missions that failed (exploded) and the years it happened
- Parts of the sun (Sun diagram) and which part is visible during an eclipse?
- Shapes of the galaxy
- Draw and explain a diagram for the reasons of our seasons
- Explain the difference between a comet and a meteor
- Explain why when a star burns out, why do we see the light for many years after?
- Explain the 3 steps to the big bang theory (How many years ago did this occur?)

Reproduction & Cell Unit

Parts of the cell Ribosome, Golgi Apparatus, Mitochondrion, nucleus, cell wall, cytoplasm, vacuole

How do animal and plant cells differ? (which have what parts)

Types of asexual reproductions (Budding,.....more)

Mitosis (Names and label diagrams)

Prophase, Metaphase, Anaphase, Telophase

Which cells in the body divide by mitosis? (know examples)

Meiosis (Which cells in the body divide by meiosis?)

When given a certain type of cell from the body indicate whether it has 23 chromosomes (sex cells) or 46 chromosomes (somatic). (Must know examples) Ex) Hair vs Sperm

What is a carcinogen and how is it caused?

What is non-disjunction within a sex cell that cause genetic disorders? (or zygote)

Define amniocentesis

Advantages/Disadvantages of Sexual & Asexual Reproduction

In Asexual reproduction, why do the chromosomes need to duplicate

What is mutations and what causes them?

What type of egg was used to make dolly the sheep? Explain briefly the processes to make her? (Who did she look like?)

Define Hermaphrodite

Know the nitrogen bases of DNA and who matches with who

Chemistry Unit

- *Define Chemical Change, physical Change, (With examples)
- *Properties of substance and definitions of Ductility, hardness, crystal formation, density, Viscosity, Malleability, Melting/boiling Points, Combustibility,
- *Know change of states (Definition of Evaporations, condensation, sublimation, melting boiling)
- *Definition of molecules, compounds, elements,
- *Know how to count atoms in a compound (Ex. $P_3Br_2S_5$) (How many of each and the total number of atoms)
- *Define neutron, electrons, and protons and where are they found in relation to the nucleus. (Who has almost similar weight?)
- *neutral atom (Has what relations between proton, neutrons, electrons, atomic number, or mass number)
- *Given your periodic table be able to calculate the number of neutrons in an element
- *Given your periodic table use atomic number and mass number be able to calculate the number of neutrons
- *Ions with positive charge had to lose electrons. Ions with negative charge gained electrons
- *Draw bohr-diagram for certain elements (Ex- draw the diagram for oxygen)
- *Define Isotopes
- *Know where metals and non metals are found on the periodic table (Which sided of staircase)
- *Know the names of the groups (Alkali metals(group 1) , alkali-earth metals (group 2), Transition metals group 3-12, Chalogens (Group 16), Halogens (group 17) and noble gases (group 18)
- *Hydrocarbons make fossil fuels



$$\text{Pb} = 2$$

$$\text{S} \Rightarrow 6$$

$$\text{O} \Rightarrow 24$$

$$\text{Total} \Rightarrow 32$$



$$\text{Mo} \Rightarrow 1$$

$$\text{Te} \Rightarrow 2$$

$$\text{Total} \quad 3$$