

Chapter One

Introduction To Science, Matter And The Atom

Science:

- This refers to the study of nature or anything that exists or is available.
- For this reason, scientists study about the sea, the air, soil, the forest, machines, space and so on.
- Science has three main branches and these are physics, chemistry and biology.
- In physics, we study about how energy affects matter.
- Some of the topics or things that we study in physics are heat, light, sound, electricity, machines as well as the sun and the planets.
- In chemistry, we study about chemicals, their properties and what happens when one chemical is added to another.
- In biology, we study about plants and animals.
- Each of these three main branches of science is divided again into other smaller branches.
- We make use of science in areas such as agriculture, medicine and pharmacy.

Matter:

- This refers to anything which has weight and occupies space, and examples are stone, wood, sand and water.
- Matter can be found in three states or forms and these are:
 - (i) The solid state.
 - (ii) The liquid state.
 - (iii) The vapour or the gaseous state.
- The volume of an item or an object is the amount of space it occupies.

The Solid State:

- Solids have definite or fixed shapes and volumes.
- This means that the shapes of solids do not change.
- For example a solid whose shape is in the form of a cuboid, will have this shape forever.
- Since a solid has a fixed or a definite volume, then the volume of a solid always remains the same and does not increase or decrease.
- Examples of solids are stone, iron and wood.
- Any matter such as a solid is made up of molecules or particles.
- These particles attract each other and for this reason, we say that attractive forces act between them.
- There are also spaces between these particles or molecules.