

Biology

Plants synthesise their own food using energy from the sun.

This allows them to make carbohydrates such as sucrose, starch and cellulose. Starch is a polymer of glucose molecules.

Monomer	a molecule that can bond to other identical molecules to form a polymer
Polymer	a large molecule consisting of many repeating units
Enzyme	biological catalysts

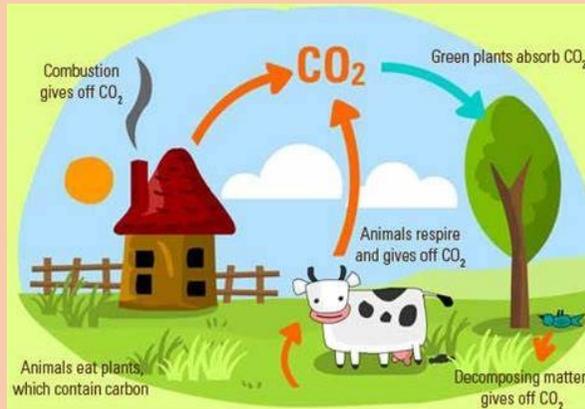
The Digestive System

Stomach	Where ingested food is stored and broken down.
Small intestine	Where food molecules are absorbed into the blood.
Large intestine	Where water molecules are

Digestion

Polymer	Enzyme	Monomer	Use of monomer
Carbohydrates	Carbohydrase	Sugar	Energy
Proteins	Protease	Amino Acids	Growth and Repair
Lipids	Lipase	Glycerol and Fatty Acid	Energy and Insulation

Chemistry



Respiration

glucose + oxygen → carbon dioxide + water

Photosynthesis

carbon dioxide + water → glucose + oxygen

Combustion

fuel + oxygen → carbon dioxide + water

The atmosphere contains

Nitrogen –78%

Oxygen 21%

Carbon dioxide-0.035%

Respiration and combustion increase the amount of CO₂ in the atmosphere . Photosynthesis reduces the amount of CO₂ in the atmosphere.

Climate change is caused by having more CO₂ in the atmosphere. This can be caused by deforestation, farming, decomposition, combustion of fossil fuels and respiration.

Physics

Energy store	Description	Example
Thermal	Hot objects	Hot coffee
Kinetic	All moving objects	Planets, buses
Electrostatic	Stretched objects	Thunder clouds
Gravitational	An object high up	Aeroplanes, kites, a
Chemical	Energy stored in chemical bonds	Food, fuel, batteries.
Elastic potential	Stretched or squashed materials.	Catapults, springs, balloons.
Magnetic	Caused by the magnetic field around	Fridge magnets, compasses, maglev
Nuclear	The energy stored in	Uranium.

Conduction	The transfer of heat by vibrations.
Radiation	Energy transferred as a wave.
Insulation	A material that does not allow thermal energy to pass through easily.
Conservation of energy	Energy cannot be created or destroyed. It can only be stored or transferred.
Transfer of energy	The movement of energy from one store to another.
Dissipate	Lost to the surroundings.
efficacy	How effective something is.