Foxford Learning Plan

Year 8

Autumn 1

Energy for Life

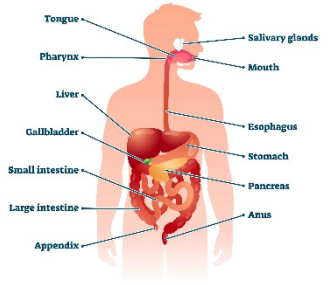
Key Vocabulary

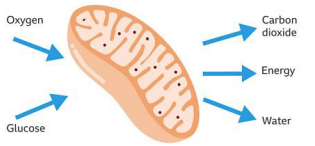
Nutrient	A substance needed by living organisms for energy, growth, repair or health.
Carbohydrate	A nutrient that provides the body's main source of energy.
Protein	A nutrient needed to make new cells for growth and repair.
Fat	A nutrient used for insulation and energy storage.
Fibre	Helps food move through the digestive system; not digested.
Enzyme	A protein that speeds up chemical reactions such as digestion.
Villi	Tiny folds in the small intestine that increase surface area for absorption.
Diffusion	Movement of particles from high concentration to low concentration.
Respiration	A chemical process that releases energy from glucose inside cells.
Aerobic respiration	Respiration that uses oxygen to release energy.
Anaerobic respiration	Respiration without oxygen, releasing less energy.
Photosynthesis	The process where plants make glucose using light, carbon dioxide and water

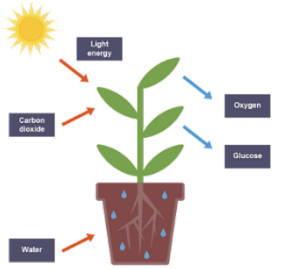
Over this course I will be able to

Key Skills

- Break down complex biological processes (digestion, respiration, photosynthesis) into clear, manageable steps and explain them confidently.
- Use scientific vocabulary precisely when describing processes such as gas exchange, enzyme action, diffusion, and photosynthesis.
- Work logically through practical investigations, selecting appropriate variables, controlling conditions, and drawing justified conclusions.
- Identify patterns and trends in data (e.g., bubble counts, limiting factor graphs, respiration comparisons) and describe what they show.
- Compare different sources of biological information (nutrients, enzymes, types of respiration, limiting factors) and judge which are most reliable or useful.







I will understand

- How living organisms obtain, break down and absorb nutrients to support energy, growth, repair and overall health.
- How the respiratory and circulatory systems work together to supply oxygen for respiration and remove carbon dioxide from the body.
- How aerobic and anaerobic respiration release energy, why organisms switch between them, and how microorganisms use respiration in processes such as fermentation.
- How plants make their own food through photosynthesis and how leaves, chloroplasts, stomata and guard cells are adapted to maximise light absorption and gas exchange.
- How environmental factors such as light intensity, temperature, water and carbon dioxide concentration affect the rate of photosynthesis, and how these can be investigated scientifically.