Biology
Curriculum Road Map

Curious Minds Discover

Year 7 — **Understanding and Applying Scientific Skills** — Year 11

Understanding variables; Drawing graphs and analysing graphical data; Writing methods; Drawing conclusions; Assessing impact of scientific concepts; Understanding relationships between science and society; Applying maths to the scientific concepts; Link scientific concepts; Describe and explain patterns

Charles Darwin

Fossils; Resistant bacteria; Carl Linnaeus + classification; Mendel

Abiotic + biotic factors; Adaptations; Carbon cycle; Water cycle; Effect of humans on ecosystem; Biomass; Farming techniques and fisheries

Cloning

ECOLOGY

Exams → Post 16 Destinations

Genetic engineering; Speciation; Extinction; Carl Woese + the domain system; Sampling habitats; Decomposition; Trophic levels; Food security; Biotechnology

Evolution; Selective breeding; Polydactlyly; Punnett sqaures

DNA structure + base pairs; Asexual reproduction; Meiosis

Plant hormones; IVF; Contraception; Hormones in reproduction

Mutations; Sex determination

INHERITANCE + EVOLUTION

YEAR 11

Water balance

XX XY

Cystic fibrosis; Protein synthesis

The Human Genome; Sexual reproduction; Negative feedback; Dialysis

HOMEOSTASIS

Vaccinations; Drug discovery + development; Plant disease and defenses; Limiting factors; Uses of glucose in plants

Response to exercise; Reflexes

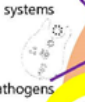
Endocrine system; The eye

Diabetes; Antibiotics; Immunity; Human defense systems

INFECTION + RESPONSE

BIOENERGETICS

Blood glucose



Pathogens; Painkillers; Monoclonal antibodies

Rate of photosynthesis; Respiration; Metabolism

The brain; Body temperature

YEAR 10

Disease risk factors

Coronary heart disease; Blood vessels; Food tests; Digestive enzymes

Osmosis; Stem cells

Culturing microorganisms; Cell differentiation

Eukaryotes and prokaryotes

Translocation; Transpiration

ORGANISATION

CELLS

Cancer; Health issues; Blood

The heart; Active transport; Diffusion

Mitosis

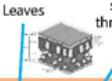
Microscopy

YEAR 9

Plant organ

Gas exchange; Disease + lifestyle

Unhealthy diets; Anaerobic respiration; Leaves



Movement of substances through a plant; Biodiversity

YEAR 8

Infertility

ORGANISMS

ECOSYSTEMS

GENES

Inheritance; Chromosomes

Foetal development

Understanding breathing

The digestive system; Fermentation; Aerobic respiration

Photosynthesis; Natural selection; Extinction

Female reproductive system; Male reproductive system

GENES

Seed dispersal

Predator + prey relationships; Bioaccumulation; Animal + plant cells

Organisation of organisms; Joints and muscles; DNA

Genetic + environmental variation

ECOSYSTEMS

ORGANISMS

YEAR 7

Fruits; Plant fertilisation

Flowers; Food chains; Unicellular organisms; Cell adaptations; Effects of recreational drugs; The skeleton

Ambition • Respect • Compassion • Courtesy • Respect