# The Five Year curriculum: Biology

BOHUNT SCHOOL

AQA

| Paper 1 | Paper 2 |
|---|---|
| Cells<br>Organisation<br>Bioenergetics<br>Infection | Inheritance<br>Ecology<br>Homeostasis |

## Revision and exam preparation

Retrieval practise
Exam technique
Seneca
Paper 2 mock
Kerboodle
Mind maps
Flashcards
Paper 1 mock

## Year 11

### Homeostasis

The menstrual cycle
Kidney function and water balance
The endocrine system
Structure and function of the eye
The nervous system
Plant hormones
Controlling fertility
Diabetes
Maintaining blood glucose levels
Thermoregulation
Brain

### Ecology 2

Human impact on ecosystems
Trophic levels
Food webs and energy transfer
Food security
Biotechnology
Sustainable food production
Biodiversity and maintaining biodiversity

### Ecology 1

Decomposition
Material cycling
Ecosystems and Interdependence
Adaptations and competition

## Year 10

### Organisation 2

Drug discovery and development
Monoclonal antibodies and their application
Human defences against disease
Prokaryotic cells
Communicable diseases
Microbiology
cancer
Risk factors to health
Lifestyle choices
Cardiovascular disease and treatments
Non communicable disease

### Disease & Infection

Plant diseases and defences
Vaccinations
Antibiotics and antibiotic resistance

### Cells 2

The cell cycle and cell division
Osmosis
Microscopy
Active transport
Stem cells

### Inheritance and evolution

DNA structure
Protein synthesis
Genetic engineering
Cloning
Classification
Causes of extinctions
Evolution and speciation
Genetic inheritance and genetic disorders
Meiosis
Sexual and asexual reproduction
Genes and gene expression

### Bioenergetics

Anaerobic respiration
Effect of exercise
Factors affecting photosynthesis
Translocation
Photosynthesis
Transpiration
Plant tissue
Aerobic respiration
Metabolism and the liver
Uses of glucose
Factors affecting transpiration
Gas exchange in leaves
Structure of leaves

### Organisation 1

Blood
The heart and circulatory system
Food tests
Breathing and gas exchange
Digestive system
Enzymes
Tissues, organs and organ systems

## Year 9

### Ecosytems

Analysis and evaluation
Data collection and interpretation
Human impact on the environment
Food relationships and interdependence
Competition and adaptation

### KS4 Transition

Transport in and out of cells
Diffusion
Factors affecting diffusion

### Cells 1

Plant and animal cells
Specialised cells
Exchange surfaces

## Year 8

### Photosynthesis and respiration

Data interpretation
Respiration
Plants and photosynthesis
Factors affecting gas exchange
Gas exchange

### Inheritance

Evolution
Data collection
Data presentation
Variation – continuous and discontinuous
Extinction
DNA and genes
Inheritance

### Organisation

Structure and function of skeletal system
Biomechanics and muscular system
Digestive system
Healthy diet

### Reproduction

Menstrual cycle
Gestation
Seed dispersal
Seed and fruit formation
Pollination
Flower structure
Male and female sexual organ systems
Intercourse and fertilisation
Maternal lifestyle

## Year 7

### Cells

Unicellular organisms
Multicellular – cells, tissues, organs, organ systems, organisms
Movement of substances in and out of cells
Microscope skills
Specialised cells
Plant and animal cell structure and function

### Safety in Science

Variables and the scientific method
Investigation skills
Health and safety
Practical skills
Identifying equipment