BIOLOGY

SPRINGFIELD SCHOOL

SKILLS

Year 11
- Make links between biological process and the impact on the environment
- Predict how biological systems will respond to external and internal changes
- Apply mathematical skills to biological contexts
- The use of specific terminology and keywords to increase impact of written responses

Year 10
- Application of scientific theory to unfamiliar contexts
- Represent biological reactions with symbol equations
- Understand how scientific theories change over time
- Identify the ethical issues associated with the application of scientific theory

Year 9
- Explore different levels of organisation in relation to the whole organism
- Use microscopes and prepare sample slides
- Use correct scientific terminology in written responses
- Link biological theory to applications in wider society

Year 8
- Represent biological reactions with word equations
- Evaluate the impact of lifestyle choices and diet on human health
- The application of simple mathematical skills to the biological context
- Link chemical tests with biological knowledge to test food samples

Year 7
- Focus on the use of the correct scientific terminology
- Use microscopes to observe cells and identify organelles
- Explore interdependence and begin to see the impact of specific changes
- Using a simple model to explain a complex idea

The future
- Study Biology at 6th form or colleges
- Biology is a key subject for lots of STEM careers, particularly in healthcare, medicine and jobs involving plants or animals

KNOWLEDGE

Yr 11
- Endocrine system: Understand how homeostatic mechanisms maintain optimum conditions in the human body.
- Nervous system: Explore the structure and function of the nervous system and how it can bring about fast responses
- Ecology: The study of ecosystems and biodiversity, including the impact of human activities.
- Inheritance: Explore the mechanics of genetic inheritance and how this links to characteristics and disorders
- Evolution: Identify and evaluate how our understanding of evolution has changed over time

Yr 10
- Respiration: Understand the process of aerobic and anaerobic respiration
- Photosynthesis: Look at the process of photosynthesis and the factors that limit it.
- Infection & Response: Understand the bodies first line of defence and how the body defends against infection. Explore the role of medicine in prevention and treatment of disease

Yr 9
- Organisation: Explore different organs and organ systems in both plants and animals. Look at the function of enzymes
- Cells: Study the structure of cells, how differences enables them to perform specific functions and look at transport into and out of cells
- Exercise: Explore the effects of exercise on the human body
- Health: Look at how lifestyle factors affect health

Yr 8
- Food and Digestion: What constitutes a healthy diet and the process of digestion
- Inheritance: Look at variation and model the inheritance of a specific trait
- Ecology & Biodiversity: Study ecosystems, species adaptations, food webs and extinction
- Reproduction: Look at reproduction in both plants and animals

Yr 7
- Cells: Study different organelles within a typical plant and animal cell, focus on specialised cells and use of microscopes
- Safety: Lab safety Hazard symbols