



## Biology

# Curriculum Road Map

### Intent

- To develop a strong understanding of the world & to acquire scientific KUS
- To gain an understanding of scientific processes & the uses and implications of science, today and for the future
- To develop and use a range of skills including observations, planning and investigating

### In Year 11...

- I will explore the interactions between plants and animals within ecosystems, looking at the biotic and abiotic factors that influence them, and the human threat to biodiversity
- I will explore genetics, looking at gene inheritance, the positive and negative effects of mutation, and how these concepts influence the evolution of organisms through natural selection
- I will look at ethically complex genetic techniques, such as cloning, selective breeding, and genetic engineering

### In Year 10...

- I will explore the methods organisms have for producing energy, including photosynthesis, aerobic respiration and anaerobic respiration
- I will examine the human control systems for temperature, pH, blood sugar and the menstrual cycle, and how these systems affect the internal environment of the body.
- I will look at how plants make and transport food, the chemical coordination as well as reproduction of plants

### In Year 9...

- I will explore inherited genetic variations and the impact of the environment to allow survival of the fittest
- I will research how the body's defence system functions against pathogens and explore other prevention methods
- I will learn the impact of smoking and four groups of drugs on the body

### In Year 8...

- I will learn about how the human body functions, and how plants and animals adapt to survive in the ecosystem
- My specialist vocabulary will be extended and I will be expected to use this vocabulary when describing and evaluating processes

### In Year 7...

- I will learn about the building blocks of life and impact on the body systems using the topics of: Cells, Reproduction, Digestion and Healthy diet.
- I will be building my specialist vocabulary and challenging myself to using technical terminology accurately and precisely to describe processes
- I will study the foundations for understanding the world through the specific discipline of biology

