



Olive Academies

# KS4 Biology Learning Journey

Havering

The purpose of the Biology curriculum is to teach and cover the topics of:

- Cell Biology
- Organisation
- Infection and Response
- Homeostasis and Response
- Ecology
- Inheritance, Variation and Evolution
- Biogenetics

KS4 Biology aims to educate young people about the importance of science in the world around them. The curriculum makes learning memorable and follows the guidance from the national curriculum. The controlled investigations tests the knowledge young people have gained throughout this key stage

## Year 10

### Cell Biology

Cell Structure

Cell Division

Transport in Cells

### Organisation

Principles of Organisation

Animal Tissues, Organs and Organ Systems

Plant Tissues, Organs and Organ Systems

### Infection and Response

Communicable Diseases

Monoclonal Antibodies

Plant Diseases

### Homeostasis and Response

The Human Nervous System

Hormonal Co-ordination

Plant Hormones

### Required Practical's and Revision

Investigate the effect of a factor on the rate of an enzyme-controlled reaction.

Investigate the effects of antiseptics and antibiotics on bacterial growth

Investigate the effects of sugar and salt solutions on plant tissue

### Ecology

Adaptations, Interdependence and Competition

Organisation of an ecosystem

Biodiversity and the Effect of Humans

Trophic Levels in and Ecosystem

Food Production

## Year 11

### Cell Biology Revisited

Cell Structure

Cell Division

Transport in Cells

### Inheritance, Variation and Evolution

Re-production

Variation and Evolution

The Development of Understanding of Genetics

Classification of Living Organisms

### Required Practical's and Revision

Investigate the effect of a factor on human reaction time

Investigate the effect of a factor on the rate of Photosynthesis

Investigate the effect of light on the growth of newly germinated hormones

### Bioenergetics

Photosynthesis

Respiration

### Year 11 Exam Revision

## Where will your Biology Qualifications take you?

### Next Steps:

A-levels in Biology, Chemistry and Physics. BTECS in Animal care, Sports Science

### Further Education:

Degrees in Biology, Sports Science, Animal Care, Veterinarian

### Career:

Nutritionist, Animal Researcher, Zookeeper Chemist, Food Scientist.