

Biology



Unit 1 : Organising animals and plants

Students will study the following:

- Tissues and organs in plants
- Transport systems in plants
- Evaporation and transpiration
- Factors effecting transpiration

Unit 2 : Communicable diseases

Students will study the following:

- Health and disease
- Pathogens and disease
- **Growing bacteria in a lab**
- **Preventing bacterial growth**
- ***REQUIRED PRACTICAL: The effects of antiseptics or antibiotics on bacterial growth***
- Preventing infections
- Viral diseases
- Bacterial diseases
- Diseases caused by fungi and protists
- Human defence responses
- **More about plant diseases**
- **Plant defence responses**

Unit 3 : Preventing and treating disease

Students will study the following:

- Vaccination
- Antibiotics and painkillers
- Discovering drugs
- Developing drugs
- **Making use of monoclonal antibodies**
- **Uses of monoclonal antibodies**

Unit 4 : Non communicable diseases

Students will study the following:

- Non- communicable diseases
- Cancer
- Smoking and the risk of disease
- Diet, exercise and disease
- Alcohol and other carcinogens

Unit 5 : Photosynthesis

Students will study the following:

- Photosynthesis
- The rate of photosynthesis
- *REQUIRED PRACTICAL: INVESTIGATING THE RATE OF PHOTOSYNTHESIS*
- How plants use glucose
- Making the most of photosynthesis

Unit 6 : Respiration

Students will study the following:

- Aerobic respiration
- The response to exercise
- Anaerobic respiration
- Metabolism and the liver

Unit 7 : The Nervous System

Students will study the following:

- Principles of homeostasis
- The structure and function of the nervous system
- Reflex actions
- *REQUIRED PRACTICAL: INVESTIGATING REACTION TIMES*
- **The brain**
- **The eye**
- **Common problems of the eye**

Unit 8 : Hormonal control

Students will study the following:

- Principles of hormonal control
- The control of blood glucose levels
- Treating diabetes
- The role of negative feedback
- Human reproduction
- Hormones and the menstrual cycle
- The artificial control of fertility
- Infertility treatments
- **Plant hormones and responses**
- **Using plant hormones**
- ***REQUIRED PRACTICAL: THE EFFECT OF LIGHT OR GRAVITY ON SEED GROWTH***

Unit 9 : Homeostasis in action

Students will study the following:

- **Controlling body temperature**
- **Removing waste products**
- **Dialysis – an artificial kidney**
- **Kidney transplants**