

Skills

Knowledge

Future Education, Employment & Training

KS5 Study

Year 11 "Becoming KS5 Ready"

Revision

Ecosystems

Abiotic and Biotic factors, communities, adaptations for hot and cold environments, distribution of organisms, random sampling – quadrats and transects, predator prey, food chains and webs, decomposition, carbon cycle, water cycle.

Year 10 "Developing into Independent Learners"

Year 11

Variation & Evolution

DNA structure, meiosis, human genome project, variation, sex inheritance, genetic inheritance, theories of evolution – Darwin, Lamarck, Wallace, Evidence of evolution, extinction, selective breeding, genetic engineering.

Homeostasis & response

Reflex arc, nervous system, eye & brain, menstrual cycle, endocrine system, controlling blood glucose & temperature, fertility, kidney & water balance, homeostasis.

Year 9 "Developing Skills to Enhance Learning"

Bioenergetics

Aerobic respiration, anaerobic respiration, photosynthesis, investigating respiration, plant minerals, factors affecting photosynthesis.

Infection & Response

Communicable disease, health and disease, physical and chemical barriers, the immune system, antibiotics & painkillers, vaccinations, discovery and development of drugs, monoclonal antibodies, plant defences, plant deficiencies.

Year 10

Organisations in Animals & Plants

Exchange of substances, the alveoli and gas exchange, the heart, digestive system, the blood and blood vessels, enzyme activity, food tests, cardiovascular disease, transpiration, effects of alcohol & smoking, non-communicable disease.

Year 8 "Taking Responsibility for Learning"

Cell Biology

Microscopy, Cell Transport, Osmosis, prokaryotes and eukaryotes, percentage and rate exchange, cell cycle, mitosis, stem cells, specialised cells.

Genes – Inheritance & Evolution

Inheritance, variation, natural selection, mutations, DNA structure, selective breeding, fossils, evolution, natural selection, extinction.

Year 9

Organisms – Breathing & Digestion

Digestive system, respiration system, enzymes in digestion, breathing, gas exchange, components of food, healthy diet, nutrient deficiency, smoking.

Year 7 "Transition to High School"

Ecosystems – Interdependence & Plant Reproduction

Flower structure, food chains and webs, fertilisation and germination, seed dispersal, pollination, ecosystems, food chains and webs, competition and adaptation, plant distribution.

Year 8

Ecosystems – Respiration & Photosynthesis

Aerobic respiration, photosynthesis, leaf structure, anaerobic respiration.

Genes – Human reproduction & variation

Adolescence, fertilisation and implantation, the menstrual cycle, reproductive systems, continuous and discontinuous variation, development of a foetus.

Year 6 Induction

Year 7

Intro to Science

Fundamental Skills, Table & graph skills

Organisms – Cells & Movement

Plant and animal cells, observing cells, unicellular organisms, specialised cells, levels of organisation, movement of substances, muscles, skeleton & joints