

Biology New Spec Run Through (v2022/2023)

1. Cell Biology, 2. Organisation, 3. Infection and Response, 4. Bioenergetics, 5. Homeostasis and Response, 6. Inheritance, variation and evolution, 7. Ecology.

Year 10	Year 11
<p>B1.1.1 Eukaryotes and Prokaryotes B1.1.2 Animal and plant cells B1.1.3 Cell Specialisation B1.1.4 Cell Differentiation B1.1.5 Microscopy <i>(Required Practical 1 – Use a light microscope to observe, draw and label a selection of plant and animal cells. A magnification scale must be included.</i></p> <p>B1.3.1 Diffusion B1.3.2 Osmosis <i>(Required Practical 3 – Investigate the effect of salt or sugar solutions on plant tissue)</i> B1.3.3 Active Transport</p>	<p>B2.1 Principles of Organisation B2.2.1 The Human Digestive System (Enzymes) <i>(Required Practical 4 – Use qualitative reagents to test for a range of carbohydrates, lipids and proteins)</i> <i>(Required Practical 5 – Investigate the effect of pH on the rate of reaction of amylase enzyme)</i></p> <p>B1.2.1 Chromosomes B1.2.2 Mitosis and the cell cycle B1.2.3 Stem Cells</p> <p>B6.1.1 Sexual and Asexual Reproduction B6.1.2 Meiosis B6.1.3 Adv and Disadv of Sexual and Asexual B6.1.4 DNA and the Genome B6.1.5 DNA Structure (aspects HT) B6.1.6 Genetic Inheritance (aspects HT) B6.1.7 Inherited Disorders B6.1.8 Sex Determination B6.3.3 Understanding of Genetics</p>
<p>B3.1.1 Communicable (Infectious) diseases B3.1.2 Viral Diseases B3.1.3 Bacterial Diseases B3.1.4 Fungal Diseases B3.1.5 Protist Diseases B3.1.6 Human Defence Systems B3.1.7 Vaccination B3.1.8 Antibiotics and Painkillers B3.1.9 Discovery and Development of Drugs</p> <p>B1.1.6 Culturing Micro-organisms <i>(Required Practical 2 – effect of antiseptics on bacterial growth using agar plates and measuring zones of inhibition - Biology)</i></p> <p>B3.2.1 Producing Monoclonal antibodies(HT) B3.2.2 Uses of monoclonal antibodies (HT) B3.3.1 Plant diseases – detection and identification (aspects HT) B3.3.2 Plant Defence Responses</p>	<p>B5.3.4 Hormones in Human Reproduction (aspects HT) B5.3.5 Contraception B5.3.6 Uses of hormones and fertility (HT) B5.3.7 Negative Feedback (HT) B5.4.1 Plant Hormones control and coordination (aspects HT) <i>(Required Practical 8 – Investigate the effect of light or gravity on the growth of newly germinated seedlings - Biology)</i> B5.4.2 Uses of plant hormones (HT)</p> <p>B5.1.1 Homeostasis B5.2.4 Control of Body Temperature (aspects HT) B5.3.1 Human Endocrine System B5.3.2 Control of Blood Glucose Concentration (aspects HT) B5.3.3 Maintaining Water and Nitrogen Balance in the Body (aspects HT)</p>
<p>B4.1.1 Photosynthesis B4.1.2 Rate of Photosynthesis (aspects HT) <i>(Required Practical 6 – Investigate the effect of light intensity on the rate of photosynthesis using an aquatic organism such as pondweed).</i> B4.1.3 Uses of Glucose from Photosynthesis</p> <p>B2.3.1 Plant Tissues B2.3.2 Plant Organs</p> <p>B4.2.1 Respiration – Aerobic and Anaerobic Respiration (aspects HT) B4.2.2 Response to Exercise (aspects HT) B4.2.3 Metabolism</p>	<p>B6.2.1 Variation and Evolution – Variation B6.2.2 Evolution B6.2.3 Selective Breeding B6.2.4 Genetic Engineering (aspects HT) B6.2.5 Cloning B6.3.1 Theory of Evolution B6.3.2 Speciation B6.3.4 Evidence of Evolution B6.3.5 Fossils B6.3.6 Extinction B6.3.7 Resistant Bacteria B6.4.1 Classification</p>
<p>B5.2.1 Nervous System – Structure and Function <i>(Required Practical 7 – Plan and carry out an investigation on the effect of a factor on human reaction time)</i></p> <p>B5.2.2 The Brain (aspects HT) B5.2.3 The Eye</p>	<p>B7.1.1 Communities B7.1.2 Abiotic Factors B7.1.3 Biotic Factors B7.1.4 Adaptations B7.2.1 Levels of Organisation <i>(Required Practical 9 – measure the population size of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species)</i> B7.2.2 Materials Cycling B7.2.3 Decomposition <i>(Required Practical 10 – Investigate the effect of a factor on the rate of decay of fresh milk by measuring pH change - Biology)</i> B7.2.4 Impact of environmental change (HT)</p>
<p>B2.2.5 Health issues B2.2.6 The effect of lifestyle on some non-communicable diseases B2.2.7 Cancer</p> <p>B2.2.2 The Heart and Blood Vessels B2.2.3 Blood B2.2.4 Coronary Heart Disease – a non-communicable disease</p>	<p>B7.3.1 Biodiversity B7.3.2 Waste Management B7.3.3 Land use B7.3.4 Deforestation B7.3.5 Global Warming B7.3.6 Maintaining Biodiversity</p> <p>B7.4.1 Trophic Levels B7.4.2 Pyramids of Biomass B7.4.3 Transfer of Biomass B7.5.1 Food Production – Factors affecting food security B7.5.2 Farming Techniques B7.5.3 Sustainable Fisheries B7.5.4 Role of Biotechnology</p>