Science

Biology – Year 7	Chemistry Year 7	Physics Year 7
• Using a microscope • Slide Preparation • Plant and animal cells, the role of each part • Specialised cells • Cells, tissues and organs • Microbes • The History of disease • Infection methods • Defence mechanisms • Vaccination • Antibiotics • Reproduction in plants • Pollination • Investigating seed dispersal • Human reproductive systems • Fertilisation • Embryo development • Birth • Twins • Puberty and the menstrual cycle • Nature vs nurture • Continuous and discontinuous variation • Classification • Photosynthesis • Water for plants • Investigating woodlice behaviour • Animal and plant adaptations • Food chains and webs • Population growth • Decomposition	• Lab safety, hazard symbols • General equipment used in lab including Bunsen burner • Acids and alkalis • What the pH scale is and what the colours indicate • Natural Indicators • Neutralisation • States of matter • Changes between state • Diffusion in liquids and gases • Atomic structure introduction • Chemical Tests for hydrogen, oxygen, carbon dioxide • The periodic table • Metals and non-metals • Compounds and mixtures • Filtration • Distillation • Chromatography • Combustion • Conservation of mass • Reversible reactions • Endothermic and exothermic reactions • Chemical batteries	• Introduction to forces • Contact and non-contact forces • Magnetism • Electromagnets • Balanced and unbalanced forces and their effects • Friction • Hooke's Law • Air resistance and its effects • Floating and sinking • Mass and Weight due to gravity • Solar System • Types of energy • Energy transfer • Energy efficiency • Types of fuel • Heat and temperature • Conduction, convection and radiation • Current and voltage in circuits • Electrostatics • Day and night • Seasons • The moon • The solar system • Rock types • Weathering of rocks • Fossilisation

Biology Year 8	Chemistry Year 8	Physics Year 8
• Respiration • A Healthy Heart • Circulation • The Skeletal System • Nervous system • Skin sensitivity • The Brain / Role / Functions / How it is mapped • The Reflex Arc • Drugs • Alcohol • Smoking • What is responsible for Inheritance • Sex Determination • Sexual reproduction and inheritance • What are inherited diseases • Asexual reproduction • Pollution Land, air, water • The effect of acid on plants and other aquatic organisms • What happened to the atmosphere? • Healthy Plants • The Nitrogen Cycle and Conservation • A Balanced Diet • Food tests for starch, glucose, fat and proteins • Digestion • The role of bacteria in the gut • Role of enzymes • Effect of pH and temperature on enzymes • Absorption and Respiration • A breath of fresh air • Excretion and the kidney	• Atomic structure and ions • Ions in detail • Interpret word equation • Alkali metals • Displacement reactions • Ionic structure and properties • Electrolysis • Solubility curves • Acids with metals • Acids with carbonates Acids and bases • Acids and alkalis • Precipitation • Concentration of acids • Fossil fuels • Naming and drawing hydrocarbons • Fractional distillation of crude oil • Cracking • Alkenes • Saturated and Unsaturated compounds. • Polymerisation • Difference between saturated and unsaturated compounds • Plastics • The carbon cycle • Acid Rain • The Greenhouse Effect • Global Warming	• Introducing pressure / pressure calculation • Pressure in liquids and gases • Pressure in liquids and hydraulic machines • Moments calculation • Calculating speed • Distance-Time graphs • Satellites in orbit • Space Travel • Resistance • Modelling circuits, use a model to describe the functions of electric circuits • Electrical safety in the home • Wiring a plug, the components in a 3 pin plug and their functions • Calculating power ratings and electricity bills • Non renewable energy sources & power station • Problems with nuclear energy • Renewable energy resources • Sound waves • Speed of sound • Sources of light • Reflection • Refraction • Dispersion • Colour and filters