

Science

	Year 7 The same 4 topics are taught each term however the order may vary	Year 8 The same 4 topics are taught each term however the order may vary	Year 9
A u t u m n 1	<p>Practical Skills Lab safety Using and naming equipment Variables Handling data and making conclusions</p> <p>Cells Using a microscope Animal and plant cells Specialised cells 7 Life Processes Nerve Cells Blood cells</p> <p>Acids Safety and recognising hazard labels Acids and alkalis - the pH scale Neutralisation Acids and carbonates Acids and metals Acid rain</p>	<p>Life Support Respiration Lung structures and gas exchange Heart and blood vessels Measuring fitness and heart disease The digestive system Food groups Making healthy choices</p> <p>Keeping Healthy Microbes The immune system Hygiene and minimising infections Vaccinations Drugs and peer pressure Stem cells</p> <p>Heating and cooling Thermal energy and how it flows Heat transfer by conduction, convection and radiation Conserving energy Space technology and re-entry temperatures</p>	<p>Life Processes & Disease Antagonistic Muscle Pairs Respiration Plant Reproduction Nutrition and Eating Disorders DNA Structure Evolution and Natural Selection</p> <p>Chemical reactions Acid Reactions Thermal decomposition reactions Oxidation reactions Endothermic and Exothermic reactions Catalysts</p> <p>Electricity Nature of electric current and voltage Current and voltage in series and parallel Resistance Ohm's law</p>
A u t u m n 2	<p>Forces Forces and how they are measured Balanced and unbalanced forces Friction Weight, mass and upthrust Calculating speed Forces involved in building</p> <p>Space Why we have days and seasons The solar system</p>	<p>Moving around Levers Pendulums Circular motion Acceleration and terminal velocity Pressure Inertia</p>	<p>Disease Health and Disease Growing bacteria in the lab Preventing bacterial growth Preventing infections</p> <p>Atomic Structure History of the atom Structure of the atom Electronic structure Chemical equations Ions and Isotopes Separating mixtures</p>

	<p>Phases of the moon Satellites The universe and the big bang Space exploration</p>		<p>Energy Energy stores and transfers Conservation of energy Work</p>
S p r i n g 1	<p>Particles Particles in solids, liquids and gases Properties of solids, liquids and gases Changes of state Dissolving Gas pressure and density</p> <p>Elements and Compounds Element symbols and definition Metals and non-metals Compounds and mixtures Vital elements and compounds</p> <p>Electricity and Magnetism Circuit symbols and circuits Series and parallel circuits</p>	<p>People and the Environment Animal adaptations Competition and climate change Food webs Pyramids of number and biomass Chemicals in farming and bioaccumulation Sustainable fuels</p> <p>Shaping life Animals behaviour for survival Learned behaviour Selective breeding Genetic engineering GM foods and intensive farming</p> <p>Periodic table Elements Groups in the periodic table Noble gases The halogens Elements our body needs Silicon The development of the periodic table</p> <p>Metal reactions Properties of metals and alloys Metals and water Metals and acid The reactivity series Recycling vs mining ore</p>	<p>Diseases Pathogens Diseases caused by; viruses, bacteria, fungi and protists Defence responses by plants and animals</p> <p>The Periodic Table Electronic structure Group 1 Group 7 Explaining trends</p> <p>Energy GPE, EPE and KE calculations Energy dissipation Power</p>
S p r i n g 2	<p>Voltage Magnets Electromagnets Discovering electricity</p> <p>Energy Energy stores and transfers Conservation of energy Calculating GPE Energy in food Energy resources The energy crisis</p>		<p>Preventing and Treating Disease Vaccination Antibiotics and painkillers Discovering drugs Developing drugs Monoclonal antibodies</p> <p>The Periodic Table Electronic structure Group 1 Group 7 Explaining trends</p> <p>Energy transfer by heating Thermal conduction and insulators IR radiation Specific heat capacity Insulating buildings</p>

S u m m e r 1	<p>Reproduction Female and male sex organs IVF Fertilisation and embryo development Development in the uterus How offspring survive The menstrual cycle Debating IVF issues</p> <p>Differences Variation and biometrics Inherited variation Environmental variation Continuous variation and correlations Animal behaviour Variation and sporting ability</p> <p>Classification Species and extinction Classification of invertebrates, vertebrates and plants</p>	<p>Using elements Structures and properties of gases The history of the atmosphere The importance of molecular formulae Polymers Metallic and ionic bonding Reduce, reuse recycle</p> <p>What's in rocks? Volcanoes and volcanologists Igneous, metamorphic and sedimentary rock Fossils The rock cycle</p> <p>Light How light travels Reflection, refraction, dispersion Colour of light and how we see it Lasers</p>	<p>Non-communicable diseases Cancer Smoking and risk of disease Diet, exercise and disease Alcohol and other carcinogens</p> <p>Structure and bonding States of matter Atoms into ions Ionic bonding Ionic formulae Covalent bonding Bonding in metals</p> <p>Energy Resources Energy demands Infrared radiation More about infrared radiation</p>
S u m m e r 2	<p>Chemical Reactions Reversible and irreversible reactions Distillation and chromatography Burning Hydrocarbons Photosynthesis Climate change</p>	<p>Sound How vibrations cause sound The decibel scale and ear protections Frequency and audible range Echoes and ultrasound How instruments produce sound Supersonic speed and sonic booms</p>	<p>The digestive system How the digestive system works Making digestion efficient</p> <p>Structure and bonding States of matter Atoms into ions Ionic bonding Ionic formulae Covalent bonding Bonding in metals</p> <p>Energy Resources Energy and the environment Big energy issues</p>