

Year group Learning programme	Year 7	Year 8	Year 9	Year 10	Year 11
LP1	Introduction to science (including health and safety) Graph Skills Cells and tissues Particles	Photosynthesis Simple chemical reactions Exploring space	Muscles and bones Reactions of acids Drugs and Health	Cell biology <ul style="list-style-type: none"> Looking at cells Cell specialisation Stem cells Cancer Microscopy (biology GCSE) Atomic structure <ul style="list-style-type: none"> Elements and compounds Atomic structure Bonding Energy <ul style="list-style-type: none"> Energy transfer Energy dissipation Power and work done Reducing energy losses Energy efficiency 	Genetics <ul style="list-style-type: none"> Meiosis Asexual and sexual reproduction Genetics/ genetic crosses. Variation and evolution <ul style="list-style-type: none"> Variation Evolution Hydrocarbons <ul style="list-style-type: none"> Crude oil Properties of hydro carbons Combustion Cracking and alkenes Intermolecular forces Forces <ul style="list-style-type: none"> Acceleration Newton's third law Forces in springs Waves <ul style="list-style-type: none"> Describing waves Wave speed Reflection and refraction
LP2	Energy transfers Plant reproduction Heat transfers	Magnets and electromagnets Food and digestion Innovative materials	Earth and atmosphere Application of forces Inheritance and evolution	Cell biology <ul style="list-style-type: none"> cell division respiration Organisation <ul style="list-style-type: none"> photosynthesis leaf structure transpiration Structure and bonding <ul style="list-style-type: none"> giant covalent bonding metallic bonding smart materials Nano science 	Variation and evolution <ul style="list-style-type: none"> Fossil evidence Antimicrobial resistance Selective breeding Genetic engineering Extinction Chemical analysis <ul style="list-style-type: none"> Pure substances Formulations Chromatography Test for gases

				<p>Energy</p> <ul style="list-style-type: none"> • Specific heat capacity • Energy resources and supplies <p>Particle model</p> <ul style="list-style-type: none"> • Density • Changes of state • Latent heat 	<p>The atmosphere</p> <ul style="list-style-type: none"> • Gases in the atmosphere • The Earth's Early atmosphere <p>Waves</p> <ul style="list-style-type: none"> • Electromagnetic spectrum • Reflection, refraction and wave fronts • Gamma rays and x-rays
LP3	<p>Atoms and elements</p> <p>Forces and effects</p> <p>Microbes</p>	<p>Compounds</p> <p>Motion</p>	Transition science unit	<p>Organisation</p> <ul style="list-style-type: none"> • Enzymes • Digestion • Heart • Blood <p>Chemical changes</p> <ul style="list-style-type: none"> • Metal oxides and extraction • Acids, bases and alkalis • Making salts • Titrations <p>Electricity</p> <ul style="list-style-type: none"> • Static • Current • Circuits • Circuit components 	<p>Ecology in action</p> <ul style="list-style-type: none"> • Ecosystems • Predator - prey relationship • Competition • Adapting for survival <p>The atmosphere</p> <ul style="list-style-type: none"> • Greenhouse gases • Human activities • Global climate change • Carbon footprint <p>Sustainable development</p> <ul style="list-style-type: none"> • Purification of water • Waste water treatment • Alternative methods of metal extraction <p>Waves</p> <ul style="list-style-type: none"> • Ultra violet and infrared radiation • Microwaves • Radio and microwave communication <p>Electromagnetisms</p>

					<ul style="list-style-type: none"> • Magnetism • Compasses
LP4	<p>Electricity</p> <p>Acids and alkalis</p>	<p>Lungs and gas exchange</p> <p>The periodic table</p>	Transition science unit	<p>Organisation</p> <ul style="list-style-type: none"> • Gas exchange • Heart disease <p>Infection and response</p> <ul style="list-style-type: none"> • Pathogens • Diseases • Protecting the body <p>Chemical changes</p> <ul style="list-style-type: none"> • Electrolysis <p>Energy changes</p> <ul style="list-style-type: none"> • Exothermic and endothermic • Energy changes • Fuel cells <p>Atoms and radiation</p> <ul style="list-style-type: none"> • Atomic structure • Radioactive decay • Nuclear equations • Half-life 	<p>Ecology in action</p> <ul style="list-style-type: none"> • Land use • Changing the landscape • Pollution and waste management • Maintain biodiversity. <p>Sustainable development</p> <ul style="list-style-type: none"> • Life cycle assessment and recycling • Ways of reducing the use of resources <p>Electromagnetisms</p> <ul style="list-style-type: none"> • Solenoid • Force on a conductor • Electric motors <p>REVISION</p>
LP5	<p>Environment and adaptations</p> <p>Pure and impure substances</p>	<p>Domestic and static electricity</p> <p>Respiration</p>	<p>GCSE Science Biology key concepts</p> <p>GCSE Science Chemistry key concepts</p> <p>GCSE Science Physics key concepts</p>	<p>Infection and response</p> <ul style="list-style-type: none"> • Immunity • New drugs <p>Homeostasis</p> <ul style="list-style-type: none"> • Endocrine system • Reflex actions <p>The rate and extent of chemical change</p> <ul style="list-style-type: none"> • Rates of reaction • Reversible reactions <p>Hydrocarbons</p> <ul style="list-style-type: none"> • Haber process <p>Atoms and radiation</p> <ul style="list-style-type: none"> • Half-life • Radioactivity • Medical radioactivity 	REVISION

<p>LP6</p>	<p>Animal reproduction Energy resources Variation and classification</p>	<p>Extracting metals Waves and sound Light</p>	<p>GCSE Science Biology key concepts GCSE Science Chemistry key concepts GCSE Science Physics key concepts</p>	<p>Homeostasis</p> <ul style="list-style-type: none"> • Blood glucose • Negative feedback • Human reproduction • IVF • Contraception <p>Hydrocarbons</p> <ul style="list-style-type: none"> • Crude oil • Alkanes • Combustion • Alkenes • Alcohols • Polymerisation <p>Forces</p> <ul style="list-style-type: none"> • Speed and distance-time graphs • Velocity-time graphs • Resultant force and motion • Investigating force 	
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