

		AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<i>Themes</i>		HOME AND SCHOOL AND COMMUNITY  <b>Biology</b>	FESTIVALS  <b>Biology</b>	LOOKING AFTER OUR WORLD  <b>Chemistry</b>	TRAVEL AND TRANSPORT  <b>Chemistry</b>	WORLD OF WORK  <b>Physics</b>	LEISURE TIME  <b>Physics</b>
<b>YEAR 7 &amp; YEAR 8 LOWER SCHOOL</b>	<b>Lower theme learners can:</b>	<ul style="list-style-type: none"> <li>➤ Identify body parts and appearance</li> <li>➤ Explore diet and exercise</li> <li>➤ Identifying personal hygiene routine</li> <li>➤ Recall advise for a healthy lifestyle</li> </ul>	<ul style="list-style-type: none"> <li>➤ Answer: what happens to plants and animals in Spring?</li> <li>➤ Answer: what happens to plants and animals in Summer?</li> <li>➤ Answer: what happens to plants and animals in Autumn?</li> <li>➤ Answer: what happens to plants and animals in Winer?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Answer: What is pollution?</li> <li>➤ Identify useful chemicals (i.e. cleaning up oil spills)</li> <li>➤ Answer: What are fossil fuels?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Answer: How do cars and other vehicles move?</li> <li>➤ Define and explore carbon footprints</li> <li>➤ Design a supercar</li> </ul>	<ul style="list-style-type: none"> <li>➤ Exploring important scientists and their discoveries (i.e. Curie, Einstein, Newton)</li> <li>➤ Answer: how do scientists carry out experiments?</li> <li>➤ Design experiments that could help the world</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explore energy usage in sports and hobbies</li> <li>➤ Define and explore buoyancy, friction, and air resistance</li> <li>➤ Define and explore sound waves</li> </ul>
	<b>Higher theme learners can:</b>	<ul style="list-style-type: none"> <li>➤ Identify physical features and internal organs</li> <li>➤ Explore diet, exercise, and the importance of breathing</li> <li>➤ Identifying personal hygiene routine and basic first aid</li> <li>➤ Recall advise to avoid illness and disease</li> </ul>	<ul style="list-style-type: none"> <li>➤ Answer: what happens to plants and animals in Spring?</li> <li>➤ Answer: what happens to plants and animals in Summer?</li> <li>➤ Answer: what happens to plants and animals in Autumn?</li> <li>➤ Answer: what happens to plants and animals in Winer?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Identify the chemicals that pollute our environment</li> <li>➤ Identify helpful chemicals (i.e. cleaning up oil spills)</li> <li>➤ Identify alternative/renewable energy sources</li> </ul>	<ul style="list-style-type: none"> <li>➤ Identify fuels vehicles use (and alternative fuels)</li> <li>➤ Answer: Planes and trains- how much energy is needed?</li> <li>➤ Design a vehicle</li> </ul>	<ul style="list-style-type: none"> <li>➤ Exploring important scientists and their discoveries (i.e. Curie, Einstein, Newton)</li> <li>➤ Exploring gravity and magnetism</li> <li>➤ Answer: What do scientists study?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explore energy usage in sports and hobbies</li> <li>➤ Define and explore buoyancy, friction, and air resistance</li> <li>➤ Define and explore sound waves, and explain how they travel</li> </ul>

		AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 9 & YEAR 10 & YEAR 11 UPPER SCHOOL- PREPARING FOR ADULTHOOD	<b>Themes</b>	LOOKING AFTER MY FAMILY  <b>Biology</b>	MOVING OUT OF HOME  <b>Biology &amp; Chemistry</b>	HOLIDAYS  <b>Chemistry</b>	EMOTIONAL & PHYSICAL WELLBEING  <b>Biology</b>	ENTERPRISE- WORKING IN A SHOP  <b>Physics and Chemistry</b>	GOING TO COLLEGE  <b>Physics</b>
	<b>Lower theme learners can:</b>	<ul style="list-style-type: none"> <li>➤ Describe house and garden plants, crops, pets and farm animals.</li> <li>➤ Describe how people take care of plants or animals</li> <li>➤ Best house plants or pets, and would you want a pet dinosaur?!</li> <li>➤ Describe how plants and animals breed.</li> <li>➤ Describe: what are genes?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain how to train a pet?</li> <li>➤ Answer: are home and garden substances safe to mix?</li> <li>➤ Describe different metals and their properties (gold, tin foil, steel)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Describe metals: what are their uses?</li> <li>➤ Describe the effect of plastic usage on our planet</li> <li>➤ Answer: how can we save energy when on holiday?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain parts of the brain</li> <li>➤ Explain the hippocampus</li> <li>➤ Explain chemicals released by our brains (i.e. adrenaline, serotonin...etc.)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Answer: moving large items: what vehicles are used?</li> <li>➤ Explore: materials, properties, and their usage, i.e. why are shopping bags made from plastic or paper, and not metal?</li> <li>➤ Working at a shop – what is the best way to stack a shelf, or pack a bag? (Heavy things on top or below? How much fits safely on a shelf, in a bag, etc?)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Answer: how fast is walking, cycling, driving? What affects your choices (weather, temperature, time)</li> <li>➤ Answer: how does sound get to our ears?</li> <li>➤ Explore STEM jobs and the future</li> </ul>
	<b>Higher theme learners can:</b>	<ul style="list-style-type: none"> <li>➤ Explain how living things interact and create food chains /webs</li> <li>➤ Explain what affects plants and their growth</li> <li>➤ Describe how changes affect pets</li> <li>➤ Explain humans impact on the environment</li> <li>➤ Explain how to breed an amazing farm crop, or farm animal.</li> <li>➤ Explain: what are genes? How they affect generations of humans.</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain the different between breeds of dogs and cats</li> <li>➤ Answer: how substances change when mixed, heated, or cooled?</li> <li>➤ Describe different metals. How are they created?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Describe metals, properties, and usage</li> <li>➤ Describe the effect of plastic usage on our planet</li> <li>➤ Explain renewable and non-renewable energy</li> <li>➤ Explain different types of forces</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain areas of our brain. What happens if one part is injured?</li> <li>➤ Explain the amygdala</li> <li>➤ Answer: how would someone's wellbeing be affected if our brain was not releasing and controlling chemicals properly?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Answer: Getting things to and from shops – why do shops use big lorries, but customers use cars, buses or trains?</li> <li>➤ Explore experimentation with different materials- which is strongest/safest?</li> <li>➤ Answer: electrical safety and efficiency in a shop – if you ran a shop, would you leave lights on all the time? How would you keep things safe for customers?</li> </ul>	<ul style="list-style-type: none"> <li>➤ Answer: how fast or safe are electric cars?</li> <li>➤ Answer: how sound travels, and the effect it has on you (i.e. music)</li> <li>➤ Research STEM jobs in the future? What skills will be most needed?</li> </ul>

		AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
YEAR 9 & YEAR 10 & YEAR 11 UPPER SCHOOL- EXAMS	<i>No Theme</i>	<b>Biology:</b> Environment, Evolution & Inheritance	<b>Biology:</b> Environment, Evolution & Inheritance  <b>Chemistry:</b> Elements, Mixtures & Compounds	<b>Chemistry:</b> Elements, Mixtures & Compounds  <b>Physics:</b> Energy, Forces & States of Matter	<b>Physics:</b> Energy, Forces & States of Matter	<b>Biology Enrichment</b>  <b>Chemistry Enrichment</b>	<b>Chemistry Enrichment</b>  <b>Physics Enrichment</b>
	<b>Lower learners can:</b>	<ul style="list-style-type: none"> <li>➤ Describe photosynthesis. and identify the stages. Describe plants and animals adaptations to their environments</li> <li>➤ Describe how people use artificial selection with plants /animals.</li> <li>➤ Describe the cell nucleus, containing DNA and chromosomes</li> <li>➤ Describe food chains /webs, and link decay to photosynthesis. Describe the link between decay, carbon, and photosynthesis</li> <li>➤ Describe plant competition for light, space, water and nutrients. Describe animal competition for food, mates and territory</li> <li>➤ Describe ways animals and plants cope with environmental change. Describe types of pollution (in water, air, land) and their effects</li> <li>➤ Give reasons people cause pollution and use resources. Describe evolutionary theory and natural selection</li> <li>➤ Describe sexual and asexual reproduction, and genetic mixing</li> </ul>	<p><b>Biology</b></p> <ul style="list-style-type: none"> <li>➤ Describe chromosomes and 'genetic engineering' possibilities</li> </ul> <p><b>Chemistry</b></p> <ul style="list-style-type: none"> <li>➤ Describe atoms, elements, metals and non-metals, and periodic table. Describe different types of compounds and understand word equations</li> <li>➤ Describe reactions between metals and non-metals to produce oxides. Describe states of matter and processes where substances change state</li> <li>➤ Describe graphite and diamond and identify similarities and differences. Describe filtration, distillation, crystallisation, chromatography</li> <li>➤ Describe reactive and unreactive metals, and processes to separate metals. Identify environmental, social and economic issues related to metal mining</li> </ul>	<p><b>Chemistry</b></p> <ul style="list-style-type: none"> <li>➤ Describe examples of metals and their properties, linking to atom structure. Describe examples of alloys and identify their uses</li> <li>➤ Describe examples of polymers, identify their properties and uses.</li> <li>➤ Give problems and benefits related to polymers not being biodegradable</li> </ul> <p><b>Physics</b></p> <ul style="list-style-type: none"> <li>➤ Describe energy storage, transfer, wastage, and efficiency, including thermal energy conduction/ insulation</li> <li>➤ Identify renewable and non-renewable energy sources</li> <li>➤ Describe forces (push and pull, contact and non-contact) and factors related to their movement, including how friction can produce heat</li> </ul>	<p><b>Physics</b></p> <ul style="list-style-type: none"> <li>➤ Measurement and calculation of speed, identify factors affecting stopping distances</li> <li>➤ Identify and describe factors affecting human reaction times when stopping</li> <li>➤ Identify and describe factors affecting braking</li> <li>➤ Describe unstable atomic nuclei, ionising radiation, and radioactive decay</li> <li>➤ Describe alpha / beta particles, gamma rays, their properties, uses, and dangers</li> </ul>	<p><b>Biology</b></p> <ul style="list-style-type: none"> <li>➤ Research, create, and complete a presentation on a Biology topic of your choice. Suggestions are: <ul style="list-style-type: none"> <li>○ How does my body work?</li> <li>○ Healthy lifestyles and the modern age</li> <li>○ London and its wildlife</li> <li>○ Favourite animal and current habitat</li> <li>○ Genes and their affect on the body</li> </ul> </li> </ul> <p><b>Chemistry</b></p> <ul style="list-style-type: none"> <li>➤ Research, create, and complete a presentation on a Biology topic of your choice. Suggestions are: <ul style="list-style-type: none"> <li>○ Chemicals and everyday use</li> <li>○ Most Useful Chemicals</li> <li>○ Most Dangerous chemics</li> </ul> </li> </ul>	<p><b>Chemistry</b></p> <ul style="list-style-type: none"> <li>➤ Complete project</li> </ul> <p><b>Physics</b></p> <ul style="list-style-type: none"> <li>➤ Research, create, and complete a presentation on a Biology topic of your choice. Suggestions are: <ul style="list-style-type: none"> <li>○ Electrical safety</li> <li>○ Sound waves and their sources</li> <li>○ Forces and magnetism on Earth</li> </ul> </li> </ul>

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
<b>Higher learners can:</b>	<ul style="list-style-type: none"> <li>➤ Explain photosynthesis, role of the sun. Explain organisms' adaptations and why they promote survival.</li> <li>➤ Explain how ecosystems rely on producers and micro-organisms. Explain how carbon dioxide released by decay is used by plants.</li> <li>➤ Explain how competition between plants affects growth.</li> <li>➤ Explain how animal competition affects survival and breeding.</li> <li>➤ Explain how living and non-living factors change environments. Explain effects of different types of pollution on living things</li> <li>➤ Explain how a nucleus controls the cell, and genetic transmission:</li> <li>➤ Explain how artificial selection is used to promote specific traits.</li> <li>➤ Explain genetic outcomes of sexual and asexual reproduction</li> <li>➤ Explain how population growth affects natural environments. Explain how natural selection made simple life more complex</li> </ul>	<p><b>Biology</b></p> <ul style="list-style-type: none"> <li>➤ Explain risks and benefits of genetic engineering</li> </ul> <p><b>Chemistry</b></p> <ul style="list-style-type: none"> <li>➤ Explain organisation of elements on the periodic table. Understand and write word equations involving compounds</li> <li>➤ Write word equations where oxides are produced. explain how particles change when substances change state</li> <li>➤ Compare diamond and graphite referring to different structures. Explain filtration, distillation, crystallisation, separation e.g. in paper chromatography</li> <li>➤ Explain processes used to separate metals from ores</li> <li>➤ Explain economic and environmental issues with metal recycling</li> </ul>	<p><b>Chemistry</b></p> <ul style="list-style-type: none"> <li>➤ Explain how atomic structures of different metals make them useful to us. Explain why alloys are often more useful to us than pure metals</li> <li>➤ Explain why structures of polymers make them useful to us.</li> <li>➤ Explain why polymers are not biodegradable and problems/ benefits</li> </ul> <p><b>Physics</b></p> <ul style="list-style-type: none"> <li>➤ Explain energy storage, transfer, wastage, and efficiency, including thermal energy conduction/ insulation</li> <li>➤ Explain differences between types of energy sources</li> <li>➤ Explain different types of forces, and effects (e.g. heat from friction)</li> </ul>	<p><b>Physics</b></p> <ul style="list-style-type: none"> <li>➤ Measurement and calculation of speed, explain factors affecting stopping distances</li> <li>➤ Explain factors affecting human reaction times when stopping</li> <li>➤ Explain factors affecting braking and apply to examples in detail</li> <li>➤ Explain how unstable atomic nuclei create ionising radiation and radioactive decay</li> <li>➤ Explain the uses, properties and dangers of each type of radiation</li> </ul>	<p><b>Biology</b></p> <ul style="list-style-type: none"> <li>➤ Research, create, and complete a presentation on a Biology topic of your choice. Suggestions are: <ul style="list-style-type: none"> <li>○ How does my body work?</li> <li>○ Healthy lifestyles and the modern age</li> <li>○ London and its wildlife</li> <li>○ Favourite animal and current habitat</li> <li>○ Genes and their affect on the body</li> </ul> </li> </ul> <p><b>Chemistry</b></p> <ul style="list-style-type: none"> <li>➤ Research, create, and complete a presentation on a Biology topic of your choice. Suggestions are: <ul style="list-style-type: none"> <li>○ Chemicals and everyday use</li> <li>○ Most Useful Chemicals</li> <li>○ Most Dangerous chemics</li> </ul> </li> </ul>	<p><b>Chemistry</b></p> <ul style="list-style-type: none"> <li>➤ Complete project</li> </ul> <p><b>Physics</b></p> <ul style="list-style-type: none"> <li>➤ Research, create, and complete a presentation on a Biology topic of your choice. Suggestions are: <ul style="list-style-type: none"> <li>○ Electrical safety</li> <li>○ Sound waves and their sources</li> <li>○ Forces and magnetism on Earth</li> </ul> </li> </ul>