

Pebble Brook School

**CURRICULUM MAP 2023-2025**

**SUBJECT/ AREA: Science**

**SUBJECT/ AREA LEADER: S. Campbell**

**DATE: July 2023**

		AUTUMN TERM 2023		SPRING TERM 2024		SUMMER TERM 2024	
		Half term1	Half term2	Half term3	Half term4	Half term5	Half term6
<b>KEY STAGE 3</b>	YEAR 7/8/9	<b>Biology:</b> <b>Technology in Biology</b>  Sub-topics: -DNA -Finger printing -Medicine -Vaccine -Antibiotics	<b>Chemistry:Metals and Non-metals</b>  Sub-topics: - Modelling the atom -Groups of periodic table -Rows of periodic table -Group 7 -Group 1 -Non-metals -Metals	<b>Physics</b>  <b>Light</b>	<b>Biology:Eco systems</b>  Sub-topics: -Photo synthesis -Leaves -Plant minerals -Aerobic respiration -Anaerobic respiration -Food chain	<b>Chemistry: Metals and acids</b>  -Acids and metals and water -Metals -Acids and metal oxides -Acids and metals carbonates	<b>Physics: Physic technology</b>  Sub-topics: -How your phone works -Lights that turn on in the dark (LDR)

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		<ul style="list-style-type: none"> <li>-Pain killer</li> <li>-Blood typing</li> </ul>			<ul style="list-style-type: none"> <li>-Food web</li> </ul>	<ul style="list-style-type: none"> <li>-Metal displacement reactions</li> </ul>	<ul style="list-style-type: none"> <li>-Keeping our house at the same temperature (Thermostat)</li> </ul>
<b>KEY STAGE 4</b>	YEAR 10/11	<p><b>Physics: Magnets and electro</b></p> <ul style="list-style-type: none"> <li>-magnetism</li> <li>-Magnetic fields</li> <li>-Interaction of magnets</li> <li>-Uses of electromagnets</li> <li>-Making electromagnets: solenoid with</li> </ul>	<p><b>Chemistry: Reaction of Acids :</b></p> <ul style="list-style-type: none"> <li>-Acid</li> <li>-Alkalis</li> <li>-pH scale</li> <li>-Acid &amp; Metals</li> <li>-Acid &amp; Metal carbonate</li> <li>-Testing for hydrogen</li> <li>-Testing for carbon dioxide</li> <li>-Neutralisation reaction</li> <li>-Crystall</li> </ul>	<p><b>Biolog y: Nervo us system and reflex actions</b></p>	<p><b>Chemistry: Earth and atmosphere</b></p> <ul style="list-style-type: none"> <li>-Composition of Earth's atmosphere</li> <li>-The Earth's early atmosphere</li> <li>-How carbon dioxide was removed from Earth's early atmos. (Photo syntesis)</li> </ul>	<p><b>Biology: How the body is coordinated</b></p> <ul style="list-style-type: none"> <li>-Hormones</li> <li>-Hormones in the menstrual cycle</li> <li>-Hormones used to control the menstrual cycle (contraception)</li> <li>-Hormones</li> </ul>	<p><b>Chemistry: Fuels and human impacts on the atmosphere</b></p> <ul style="list-style-type: none"> <li>-Burning fuel completely</li> <li>-Burning fuel is not enough oxygen</li> </ul>

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		iron core and conducting wire -How to increase the strength of electro -magnets	isation of salt solution to make solid salts -Making soluble salts chlorides & Sulphates) -Naming salts		-How oxygen came into the Earth's atmosphere	used to improve fertility	-Effects of burning fossil fuel -Acid rain -Global dimming -Carbon monoxide poisoning
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SCIENCE PLAN 2024-25	AUTUMN TERM 2024		SPRING TERM 2025		SUMMER TERM 2025	
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
<b>KEY STAGE 3</b>	YEAR 7/8/9 Physics: Earth & Atmosphere -Earth's structure -Atmosphere structure -Sedimentary rocks -Igneous rocks -metamorphic rocks -rock cycle	Biology: Health & lifestyle -Nutrients -Food test -Unhealthy diet -Drugs -Alcohol -Smoking	Physics: Motion & Forces Sub-topics: -Forces -Contact forces -Non-contact forces	Physics: Energy Sub-topics: Energy resources Thermal energy-measuring temperature -Solar energy -Wind energy -Geo-thermal energy -Tidal energy	Chemistry: Pure & impure substance Subtopic: Separating mixture -Mixtures -Solutions -Filtration -Evapor	Biology: Interaction & interdependence -dependence -Variation -Continuous Variation -Discontinuous variation -Adaptation

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		<ul style="list-style-type: none"> <li>-volcanoes</li> <li>-Earth quakes</li> <li>-Climate change</li> <li>-Recycling</li> </ul>		<ul style="list-style-type: none"> <li>-Speed</li> <li>-Friction</li> <li>-Air resistance</li> </ul>	<ul style="list-style-type: none"> <li>-Hydro electric</li> </ul>	<ul style="list-style-type: none"> <li>ation</li> <li>-Distill</li> <li>ation</li> <li>-Chroma</li> <li>tography</li> </ul>	<ul style="list-style-type: none"> <li>-Competition</li> <li>-Inheritance</li> <li>-Extinction</li> <li>-Natural selection</li> </ul>
<b>KEY STAGE 4</b>	YEAR 10/11	<p><b>Biology: How the body fights diseases</b></p> <ul style="list-style-type: none"> <li>-The skin</li> <li>-White blood cells</li> <li>-Antibiotics</li> <li>-How Vaccines work</li> <li>-How viruses works</li> <li>-Infectious (communicable)</li> </ul>	<p><b>Physics: Electricity</b></p> <ul style="list-style-type: none"> <li>-Current</li> <li>-Resistance</li> <li>- Alternating current (mains current)</li> <li>-Direct current (batteries and cells)</li> <li>-Three-pin-plug</li> <li>-Fuse</li> </ul>	<p><b>Chemical reaction</b></p> <ul style="list-style-type: none"> <li>-Measuring reactions</li> <li>-Factors affecting speed of reaction</li> </ul>	<p><b>Biology: Structure of the human body</b></p> <ul style="list-style-type: none"> <li>-Animal Cells (nucleus, cytoplasm &amp; cell membrane)</li> <li>-Plants cells (nucleus, cytoplasm &amp; cell membrane)</li> </ul>	<p><b>Physics: Waves</b></p> <ul style="list-style-type: none"> <li>-What are waves (parts of wave)</li> <li>-Transverse &amp; longitudinal wave</li> <li>-Types of transverse waves</li> <li>-Types of longitudinal waves</li> <li>- Amplitude vs frequency</li> </ul>	<p><b>Chemistry: Our world</b></p> <ul style="list-style-type: none"> <li>-What is crude oil</li> <li>-Separating crude oil</li> <li>-Uses of crude oil (medicine, manufacturing, fuel)</li> <li>-Drinking</li> </ul>

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	<p>diseases (only major &amp; relevant ones)</p> <p>-How drugs are developed</p>	<p>-Series circuit</p> <p>-Parallel circuit</p> <p>-Energy usage (kWh)</p>		<p>-Specialized animal cells</p> <p>-Levels of organization</p> <p>-Major organs in the body (location &amp; function)</p> <p>-Human circulatory system (dual circulatory system)</p> <p>- Identifying different blood cell from images</p>	<p>- Wave calculations</p> <p>-Electro magnetic spectrum:</p> <p>-Uses of X-ray e.g. imaging bones</p> <p>-Uses of IR e.g. house radiator</p> <p>-Uses of Microwaves e.g. microwave oven</p> <p>-Uses of radio waves e.g. radio &amp; TV signals</p> <p>-Uses of visible light</p> <p>- Uses of UV e.g. killing micro organisms</p>	<p>water sources</p> <p>-How water is made drinkable UK</p> <p>-Water pollution</p> <p>-Distillation of sea water (salt water)</p>
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						-Uses of Gamma-rays	
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