

	NC POINTS	PRIOR KNOWLEDGE	SUBSTANTIVE (KNOW THAT ...)	DISCIPLINARY (KNOW HOW TO ...)	REQUIRED PRACTICAL(S)	LESSON BREAKDOWN	KEY VOCABULARY
MATTER Periodic table and separating mixtures	<p>the varying physical and chemical properties of different elements</p> <p>the principles underpinning the Mendeleev Periodic Table</p> <p>the Periodic Table: periods and groups; metals and non-metals</p> <p>how patterns in reactions can be predicted with reference to the Periodic Table</p> <p>diffusion in terms of the particle model</p> <p>changes with temperature in motion and spacing of particles</p>	<p>KS1</p> <p>Identifying everyday materials (e.g. wood, plastic, glass)</p> <p>Compare the physical properties and uses of everyday materials</p> <p>KS2</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>KS3</p> <p>Difference between an element and a compound</p> <p>Chemical reactions making compounds</p>	<p>State what the groups and periods of the periodic table tell you about the elements</p> <p>Describe the trends in properties of group 1 elements</p> <p>Describe the trends in properties of group 7 elements</p> <p>Describe the trends in properties of group 0 elements</p> <p>What diffusion is and why it is affected by temperature</p>	<p>Domain 1</p> <p>Write a hypothesis</p> <p>Carry out experiments with regard for health and safety</p> <p>Identify variables</p> <p>Domain 2</p> <p>Set up and use a Bunsen burner</p> <p>Use analogue thermometer to measure temperature</p> <p>Use measuring cylinder to measure volume</p> <p>Use SI units for temperature, volume and time</p> <p>Record data in a table</p> <p>Domain 3</p> <p>Plot a graph of temperature against time when axes are provided</p> <p>Draw a line of best fit</p> <p>Domain 4</p> <p>Use experimental data to support hypothesis</p> <p>Use experimental data to support explanation</p>	<p>Investigating how temperature affects the time taken for a cross to "disappear" using tea bags</p>	<p>1. The periodic table</p> <p>2. Group 1</p> <p>3. Group 7</p> <p>4. Group 0</p> <p>5. Diffusion</p> <p>6. Diffusion RP planning</p> <p>7. Diffusion RP investigation</p> <p>8. Diffusion RP graph drawing and conclusions</p> <p>9. Brownian motion</p> <p>LESSONS 6 - 10 Y7 MATTER</p>	<p>boiling point</p> <p>diffusion</p> <p>group</p> <p>Mendeleev</p> <p>period</p> <p>periodic table</p> <p>reactivity</p> <p>temperature</p>
FORCES Speed and pressure	<p>forces as pushes or pulls, arising from the interaction between two objects</p> <p>forces being needed to cause objects to stop or start moving, or to change their speed or direction of motion (qualitative only)</p> <p>change depending on direction of force and its size</p> <p>pressure in liquids, increasing with depth; upthrust effects, floating and sinking</p> <p>pressure measured by ratio of force over area – acting normal to any surface.</p>	<p>KS1</p> <p>Shape of solid objects can be changed by squashing, stretching, bending and twisting</p> <p>Some forces need contact between objects but magnetic forces work at a distance</p> <p>KS2</p> <p>Identify the effects of air resistance, water resistance and friction</p> <p>KS3</p> <p>Behaviour and arrangement of particles in solids and gases</p> <p>Forces may result in the movement of an object</p> <p>Forces work in interaction pairs</p>	<p>Describe how fluids exert pressure</p> <p>Calculate pressure</p> <p>Describe and explain how atmospheric pressure changes with height</p> <p>Describe and explain how liquid pressure changes with depth</p> <p>Calculate stress on solids</p>	<p>Domain 1</p> <p>Carry out experiments with regard for health and safety</p> <p>Identify variables</p> <p>Identify hazards</p> <p>Domain 2</p> <p>Use a metre ruler to measure length in cm</p> <p>Use a stop watch</p> <p>Record data in a table</p> <p>Domain 3</p> <p>Calculate means</p> <p>Plot a graph of speed against height of ramp</p> <p>Draw a line of best fit</p> <p>Domain 4</p> <p>Use experimental data to support explanations</p>	<p>Investigate the average speed of a trolley</p>	<p>1. Investigating average speed RP investigation</p> <p>2. Investigating average speed RP graph plotting and evaluation</p> <p>3. Pressure in solids</p> <p>4. Pressure in fluids</p> <p>5. Pressure in gases</p> <p>6. Y7 Forces recap</p> <p>7. Y7 Forces recap</p> <p>8. Y7 Forces recap</p> <p>9. Revision</p> <p>10. Assessment</p> <p>11. DIRT</p>	<p>collision</p> <p>distance</p> <p>fluid</p> <p>gradient</p> <p>pressure</p> <p>relative motion</p> <p>speed</p> <p>stress</p> <p>time</p>
ORGANISMS Digestion and cells	<p>the role of diffusion in the movement of materials in and between cells</p> <p>the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.</p> <p>content of a healthy human diet: carbohydrates, lipids (fats and oils), proteins, vitamins, minerals, dietary fibre and water, and why each is needed</p> <p>calculations of energy requirements in a healthy daily diet</p> <p>the consequences of imbalances in the diet, including obesity, starvation</p> <p>the tissues and organs of the human digestive system, including adaptations to function and how the digestive system digests food (enzymes simply as biological catalysts)</p> <p>reproduction in plants, including flower structure, wind and insect pollination, fertilisation, seed and fruit formation and dispersal, including quantitative investigation of some dispersal mechanisms.</p> <p>the importance of plant reproduction through insect pollination in human food security</p>	<p>KS1</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p>KS2</p> <p>Describe the simple functions of the basic parts of the digestive system in humans</p> <p>KS3</p> <p>Diffusion as the movement of gases</p> <p>Adaptations as features that allow something to carry out its function</p> <p>Plants carry out photosynthesis to make glucose</p> <p>Organisms respire to release energy</p>	<p>Describe the components of a healthy diet and the function of different nutrients in the body</p> <p>Describe how to test food samples for starch, sugar, protein and lipids</p> <p>Describe the problems caused by an unbalanced diet</p> <p>Describe the structure and function of the digestive system</p> <p>Explain how the organs of the digestive system are adapted to their functions</p> <p>State the names and functions of digestive enzymes</p> <p>State what enzymes break the different nutrients down into</p> <p>Name the parts of a flower and give their functions</p> <p>Explain how plants are adapted to wind and insect pollination</p> <p>Describe the processes of fertilisation and germination in plants</p> <p>Describe the different ways seeds can be dispersed</p> <p>Describe the adaptations of plants for different methods of seed dispersal</p>	<p>Domain 1</p> <p>Write a hypothesis</p> <p>Carry out experiments with regard for health and safety</p> <p>Domain 2</p> <p>Produce diagrams based on observations</p> <p>Record observations in a table</p> <p>Draw diagrams of observations</p> <p>Domain 4</p> <p>Use experimental observations to draw conclusions</p>	<p>Testing food samples for sugar, starch, protein and lipid</p> <p>Dissecting a flower</p>	<p>1. Nutrients and diet</p> <p>2. Food tests RP</p> <p>3. Unbalanced diets</p> <p>4. Digestive system</p> <p>5. Enzymes</p> <p>6. Levels of organisation (opportunity to revisit prior learning)</p> <p>7. Structure of flowers</p> <p>8. Dissecting a flower RP</p> <p>9. Pollination</p> <p>10. Fertilisation and germination</p> <p>11. Seed dispersal</p> <p>LESSONS 1 - 5 Y7 ECOSYSTEMS</p>	<p>absorb iodine protease</p> <p>adaptation large intestine protein</p> <p>amylase lipase sepal</p> <p>anther lipid small intestine</p> <p>benedict's solution liver stamen</p> <p>biuret solution oesophagus stigma</p> <p>carbohydrase organ stomach</p> <p>carbohydrate organ system style</p> <p>diffusion ovary tissue</p> <p>dispersal ovule</p> <p>enzyme pancreas</p> <p>filament petal</p> <p>function pollen</p> <p>gall bladder germination pollination pollinator</p>
REACTIONS Metals and non-metals	<p>the varying physical and chemical properties of different elements</p> <p>the properties of metals and non-metals</p> <p>the chemical properties of metal and non-metal oxides with respect to acidity</p> <p>the order of metals and carbon in the reactivity series</p> <p>reactions of acids with metals to produce a salt plus hydrogen</p>	<p>KS1</p> <p>Identifying everyday materials (e.g. wood, plastic, glass)</p> <p>Compare the physical properties and uses of everyday materials</p> <p>KS2</p> <p>Some changes result in the formation of new materials, e.g. acid and bicarbonate of soda</p> <p>KS3</p> <p>Difference between an element and a compound</p> <p>Identify hazards</p> <p>Carry out experimental procedures with regard for health and safety</p> <p>Use a measuring cylinder</p> <p>Plot data on a graph when given the axes</p>	<p>Properties of metals and non-metals</p> <p>Reactions between metals and non-metals</p> <p>Oxidation as the reaction of a substance with oxygen</p> <p>Reactions of metals and acids</p> <p>Reactions of metals and oxygen</p> <p>Reactions of metals and water</p> <p>Using observations to determine a reactivity series</p> <p>What happens during a metal displacement reaction</p> <p>How metals are extracted from their ores</p>	<p>Domain 1</p> <p>Carry out experiments with regard for health and safety</p> <p>Identify variables</p> <p>Identify hazards</p> <p>Domain 2</p> <p>use upturned measuring cylinder to measure volume of gas</p> <p>record measurements in a table</p> <p>Use a stop watch</p> <p>Domain 3</p> <p>Plot a graph of volume of gas against time</p> <p>Plot multiple sets of data on the same axes</p> <p>Draw curved lines of best fit</p> <p>Domain 4</p> <p>Use experimental observations to draw conclusions</p>	<p>Using the reactions of metals with acid to determine a reactivity series</p>	<p>1. Properties of metals and non-metals</p> <p>2. Metals and oxygen</p> <p>3. Metals and water</p> <p>4. Metals and acids</p> <p>5. Reactivity series RP investigation</p> <p>6. Reactivity series RP graph plotting and conclusions</p> <p>7. Metal displacement reactions</p> <p>8. Revision</p> <p>9. Assessment</p> <p>10. DIRT</p>	<p>acid</p> <p>brittle</p> <p>conductor</p> <p>displacement</p> <p>ductile</p> <p>hydroxide</p> <p>malleable</p> <p>reactivity</p> <p>sonorous</p>
ELECTROMAGNETISM Current and potential difference	<p>electric current, measured in amperes, in circuits, series and parallel circuits, currents add where branches meet and current as flow of charge</p> <p>potential difference, measured in volts, battery and bulb ratings; resistance, measured in ohms, as the ratio of potential difference (p.d.) to current</p> <p>differences in resistance between conducting and insulating components (quantitative)</p> <p>separation of positive or negative charges when objects are rubbed together; transfer of electrons, forces between charged objects</p> <p>the idea of electric field, forces acting across the space between objects not in contact</p>	<p>KS1</p> <p>Some forces need contact between objects but magnetic forces work at a distance</p> <p>Observe how magnets attract and repel some materials but not others</p> <p>Describe magnets as having two poles</p> <p>Predict whether magnets will attract or repel depending on which poles are facing</p> <p>KS2</p> <p>Identify common appliances that run on electricity</p> <p>KS3</p> <p>Non-contact forces</p> <p>Movement as doing work</p> <p>Energy stores and transfers</p> <p>Properties of metals</p>	<p>Current is the amount of charge flowing per second</p> <p>Potential difference is the push provided by the power source, measured using a voltmeter in volts</p> <p>Resistance is how hard it is for charges to pass through a component or circuit</p> <p>Calculate resistance</p> <p>Describe series and parallel circuits</p> <p>Explain what happens to current and p.d. in series and parallel circuits</p> <p>Describe the structure of an atom</p> <p>Explain how objects become statically charged</p>	<p>Domain 1</p> <p>Carry out experiments with regard for health and safety</p> <p>Identify hazards</p> <p>Domain 2</p> <p>Construct series and parallel circuits</p> <p>Record measurements in a table</p> <p>Domain 4</p> <p>Use experimental observations to draw conclusions</p>	<p>Investigating current and p.d. in series and parallel</p>	<p>1. Circuit diagrams</p> <p>2. Current</p> <p>3. Potential difference</p> <p>4. Resistance</p> <p>5. Series and parallel</p> <p>6. Series and parallel RP</p> <p>7. Atomic structure</p> <p>8. Static electricity</p>	<p>ammeter series</p> <p>bulb static</p> <p>charge switch</p> <p>current voltmeter</p> <p>electron</p> <p>friction</p> <p>motor</p> <p>neutron</p> <p>parallel</p> <p>potential difference</p> <p>proton</p> <p>resistance</p>
GENES Evolution	<p>the variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection</p> <p>changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction</p> <p>the importance of maintaining biodiversity and the use of gene banks to preserve hereditary material.</p> <p>the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops</p> <p>how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.</p>	<p>KS1</p> <p>Notice that animals including humans have offspring that grow into adults</p> <p>KS2</p> <p>Describe the life process of reproduction in some plants and animals</p> <p>KS3</p> <p>Leaves and lungs have adaptations to help them carry out processes.</p>	<p>Describe the process of natural selection</p> <p>Explain the theory of evolution</p> <p>Describe the work of Charles Darwin</p> <p>Explain how organisms can become extinct</p> <p>Explain the importance of preserving biodiversity</p> <p>Explain food chains in terms of energy transfer</p> <p>Explain how food chains link together to form food webs</p> <p>Explain the term inter-dependence</p> <p>Explain bio-accumulation</p> <p>Explain how organisms can coexist in an ecosystem</p> <p>Describe what animals and plants compete for</p>	<p>Domain 4</p> <p>Understand how scientific ideas develop over time</p>	<p>1. Natural selection</p> <p>2. Darwin's theory of evolution</p> <p>3. Evidence for evolution</p> <p>4. Extinction</p> <p>5. Preserving biodiversity</p> <p>6. Bioaccumulation</p> <p>7. Interdependence</p> <p>8. Competition</p> <p>9. Adaptation</p> <p>10. Revision</p> <p>11. Assessment</p> <p>12. DIRT</p>	<p>adaptation</p> <p>bioaccumulation</p> <p>biodiversity</p> <p>competition</p> <p>evolution</p> <p>extinction</p> <p>interdependence</p> <p>natural selection</p> <p>survive</p>	
	<p>energy as a quantity that can be quantified and calculated; the total energy has the same value before and after a change</p>	<p>None of KS1 or 2</p>	<p>Name the different energy stores</p>	<p>Domain 1</p>	<p>Conservation of energy RP</p>	<p>1. Energy stores</p>	<p>chemical</p>

<p>ENERGY Costs and heating</p> <p>comparing the starting with the final conditions of a system and describing increases and decreases in the amounts of energy associated with movements, temperatures, changes in positions in a field, in elastic distortions and in chemical compositions</p> <p>using physical processes and mechanisms, rather than energy, to explain the intermediate steps that bring about such changes</p> <p>comparing amounts of energy transferred (J, kJ, kW hour)</p> <p>simple machines give bigger force but at the expense of smaller movement (and vice versa): product of force and displacement unchanged</p> <p>comparing the starting with the final conditions of a system and describing increases and decreases in the amounts of energy associated with movements, temperatures, changes in positions in a field, in elastic distortions and in chemical compositions</p> <p>heating and thermal equilibrium: temperature difference between two objects leading to energy transfer from the hotter to the cooler one, through contact (conduction) or radiation; such transfers tending to reduce the temperature difference: use of insulators</p> <p>comparing energy values of different foods (from labels) (kJ)</p> <p>comparing power ratings of appliances in watts (W, kW)</p> <p>comparing amounts of energy transferred (J, kJ, kW hour)</p> <p>domestic: fuel bills, fuel use and costs</p> <p>fuels and energy resources.</p> <p>changes with temperature in motion and spacing of particles</p> <p>internal energy stored in materials</p>	<p>KS3</p> <p>Behaviour and arrangement of particles in solids, liquids and gases.</p> <p>Changing state requires a change in energy</p> <p>Forces about a pivot produce a turning force (moment)</p> <p>Forces may result in the movement of an object</p>	<p>Describe energy transfers in terms of moving energy between stores</p> <p>Energy dissipation</p> <p>How to calculate efficiency</p> <p>How to calculate work</p> <p>How simple machines maximise force and reduce energy needed</p> <p>Understand food as being a store of energy</p> <p>Identifying renewable and non-renewable energy resources</p> <p>Explain how electricity is produced in a power station</p> <p>Calculate power</p> <p>Calculate energy costs</p> <p>Explain how energy and temperature are different</p> <p>Explain how particle movement changes when a substance is heated</p> <p>Describe how energy is transferred by conduction and radiation</p> <p>Explain how unwanted energy transfers can be reduced using insulation</p>	<p>Identify variables</p> <p>Plan an investigation</p> <p>Design a results table</p> <p>Domain 2</p> <p>Record data in a table</p> <p>Domain 3</p> <p>Plot a graph of temperature change against layers of insulation</p> <p>Draw a line of best fit</p> <p>Domain 4</p> <p>Use experimental data to support explanation</p>	<p>Investigating insulation</p> <p>Y7 ENERGY</p>	<p>2. Energy transfers</p> <p>3. Conservation of energy RP</p> <p>4. Efficiency</p> <p>5. Work done</p> <p>6. Simple machines</p> <p>7. Food as fuel</p> <p>8. Renewable energy resources</p> <p>9. Non-renewable energy resources</p> <p>10. Power station (fossil fuel)</p> <p>11. Power</p> <p>12. Energy costs</p> <p>13. Conduction</p> <p>14. Radiation</p> <p>15. Insulation</p> <p>16. Investigating insulation RP planning</p> <p>17. Investigating insulation RP practical</p> <p>18. Investigating insulation RP graph and evaluation</p>	<p>collision</p> <p>conduction</p> <p>conservation</p> <p>dissipation</p> <p>efficiency</p> <p>elastic potential</p> <p>electrical</p> <p>electric-magnetic</p> <p>mechanical</p> <p>energy</p> <p>non-renewable</p> <p>nuclear</p> <p>fossil fuel</p> <p>gear</p> <p>particle</p> <p>gravitational potential</p> <p>power</p> <p>heating</p> <p>radiation</p> <p>insulation</p> <p>renewable</p> <p>joules</p> <p>thermal</p> <p>kinetic</p> <p>wave</p> <p>lever</p> <p>work done</p>
<p>ECOSYSTEMS Respiration and photosynthesis</p> <p>aerobic and anaerobic respiration in living organisms, including the breakdown of organic molecules to enable all the other chemical processes necessary for life</p> <p>a word summary for aerobic respiration</p> <p>the process of anaerobic respiration in humans and micro-organisms, including fermentation, and a word summary for anaerobic respiration</p> <p>the differences between aerobic and anaerobic respiration in terms of the reactants, the products formed and the implications for the organism.</p>	<p>KS1</p> <p>Describe how animals obtain their food from plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow</p> <p>KS2</p> <p>None</p> <p>KS3</p> <p>Diffusion as movement of gases</p> <p>Behaviour and arrangement of particles in gases</p> <p>Chemical reactions making compounds</p> <p>Chemical reactions involve energy transfers</p> <p>Muscles needing energy to move</p>	<p>What is aerobic respiration</p> <p>How glucose and oxygen are transported around the body</p> <p>How carbon dioxide leaves the body</p> <p>What anaerobic respiration is</p> <p>What fermentation is</p> <p>How we use fermentation to produce food and drink</p>			<p>1. Aerobic respiration</p> <p>2. Diffusion in respiration</p> <p>3. Anaerobic respiration in animals</p> <p>4. Fermentation</p> <p>5. Revision</p> <p>6. Assessment</p> <p>7. DIRT</p>	<p>aerobic</p> <p>anaerobic</p> <p>diffusion</p> <p>ethanol</p> <p>fermentation</p> <p>lactic acid</p>
<p>WAVES Light</p> <p>frequencies of sound waves, measured in hertz (Hz); echoes, reflection and absorption of sound</p> <p>sound needs a medium to travel, the speed of sound in air, in water, in solids</p> <p>sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal</p> <p>auditory range of humans and animals</p> <p>the similarities and differences between light waves and waves in matter</p> <p>light waves travelling through a vacuum: speed of light</p> <p>the transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface</p> <p>use of ray model to explain imaging in mirrors, the pinhole camera, the refraction of light and action of convex lenses in focusing (qualitative); the human eye</p> <p>light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras</p> <p>colours and the different frequencies of light, white light and prisms (qualitative only); differential colour effects in absorption and diffuse reflection</p>	<p>KS1</p> <p>Recognise that they need light in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>KS2</p> <p>Recognise that light appears to travel in straight lines</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye</p> <p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</p> <p>KS3</p> <p>Eye colour as an example of variation</p> <p>Waves transfer energy as well as matter</p> <p>Describe what amplitude, frequency and wavelength are</p> <p>Describe how energy is transferred by longitudinal waves</p>	<p>What a sound wave is</p> <p>How speed travels</p> <p>How amplitude affects a sound</p> <p>How frequency affects a sound</p> <p>How to calculate the frequency of a wave</p> <p>How the ear allows us to hear</p> <p>What a light wave is</p> <p>The law of reflection</p> <p>The different types of reflection</p> <p>How a reflection forms an image</p> <p>What is refraction</p> <p>How we can use refraction to change an image</p> <p>How the eye allows us to see</p> <p>How we can use lenses to correct vision</p> <p>How we see colour</p>	<p>REFLECTION</p> <p>Domain 1</p> <p>Identify hazards</p> <p>Carry out experiments with regard for health and safety</p> <p>Domain 2</p> <p>Use a ray box to investigate light</p> <p>Use a protractor to measure angles</p> <p>Make and record measurements</p> <p>Domain 4</p> <p>Use experimental data to support conclusions</p> <p>REFRACTION</p> <p>Domain 1</p> <p>Identify hazards</p> <p>Carry out experiments with regard for health and safety</p> <p>Design a results table</p> <p>Domain 2</p> <p>Use a ray box to investigate light</p> <p>Use a protractor to measure angles</p> <p>Make and record measurements</p> <p>Domain 4</p> <p>Use experimental data to support conclusions</p>	<p>Investigating reflection</p> <p>Investigating refraction</p> <p>Y7 WAVES</p>	<p>1. Sound waves</p> <p>2. Amplitude and volume</p> <p>3. Frequency and pitch</p> <p>4. Calculating frequency</p> <p>5. The ear</p> <p>6. Light waves</p> <p>7. Reflection</p> <p>8. Investigating reflection RP</p> <p>9. Reflection and images</p> <p>10. Refraction</p> <p>11. Investigating refraction RP</p> <p>12. Refraction and images</p> <p>13. The eye</p> <p>14. Lenses and cameras</p> <p>15. Colour</p>	<p>amplitude</p> <p>virtual image</p> <p>auditory nerve</p> <p>wavelength</p> <p>cochlea</p> <p>concave</p> <p>convex</p> <p>diffuse</p> <p>ear drum</p> <p>frequency</p> <p>lens</p> <p>light</p> <p>longitudinal</p> <p>optic nerve</p> <p>pitch</p> <p>pupil</p> <p>real image</p> <p>reflection</p> <p>refraction</p> <p>retina</p> <p>sound</p> <p>specular</p> <p>stapes</p> <p>transverse</p>
<p>THE EARTH Climate and resources</p> <p>the composition of the Earth</p> <p>the structure of the Earth</p> <p>the rock cycle and the formation of igneous, sedimentary and metamorphic rocks</p> <p>Earth as a source of limited resources and the efficacy of recycling</p> <p>the order of metals and carbon in the reactivity series</p> <p>the composition of the atmosphere</p> <p>the production of carbon dioxide by human activity and the impact on climate</p>	<p>KS1</p> <p>None</p> <p>KS2</p> <p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>Describe the movement of the Moon relative to the Earth</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>KS3</p> <p>Behaviour and arrangement of particles in solids, liquids and gases</p> <p>Changing state requires a change in energy</p> <p>Properties of metals and non-metals</p> <p>Light travels as a wave</p> <p>Weight and gravity as non-contact forces</p> <p>Earth has a magnetic field</p>	<p>The structure of the Earth</p> <p>How sedimentary rocks form</p> <p>How igneous rocks form</p> <p>How metamorphic rocks form</p> <p>How rocks move through the rock cycle</p> <p>Describe the composition of the Earth's atmosphere</p> <p>Explain the greenhouse effect</p> <p>Explain the process of global warming</p> <p>Describe the impact of climate change</p> <p>Examine the impact of human activity on climate change</p> <p>Describe how metals can be extracted from their ores</p> <p>Explain the importance of recycling</p>	<p>Domain 1</p> <p>Identify variables</p> <p>Carry out experiments with regard for health and safety</p> <p>Identify hazards</p> <p>Domain 2</p> <p>Use a water bath</p> <p>Set up and use a Bunsen burner</p> <p>Make observations</p> <p>Domain 3</p> <p>Record observations as a diagram</p> <p>Domain 4</p> <p>Use experimental data to support conclusions</p>	<p>Investigating the effect of temperature on crystal formation</p> <p>Extracting copper from copper oxide</p> <p>LESSONS 1-6 Y7 THE EARTH</p>	<p>1. Earth's structure</p> <p>2. Sedimentary rock</p> <p>3. Igneous rock</p> <p>4. Investigating the effect of temperature on crystal formation RP</p> <p>5. Metamorphic rock</p> <p>6. The rock cycle</p> <p>7. Earth's atmosphere</p> <p>8. Greenhouse effect</p> <p>9. Global warming and climate change</p> <p>10. Human activity and climate change</p> <p>11. Finite and renewable resources</p> <p>12. Extracting metals (including RP)</p> <p>13. Recycling</p> <p>14. Revision</p> <p>15. Assessment</p> <p>16. DIRT</p>	<p>atmosphere</p> <p>recycling</p> <p>cementation</p> <p>renewable</p> <p>climate</p> <p>sediment</p> <p>climate change</p> <p>sedimentary</p> <p>crust</p> <p>deposition</p> <p>erosion</p> <p>extracting</p> <p>extrusive</p> <p>finite</p> <p>global warming</p> <p>greenhouse effect</p> <p>igneous</p> <p>inner core</p> <p>intrusive</p> <p>mantle</p> <p>metamorphic</p> <p>outer core</p> <p>radiation</p>