

Purple - PSHE content

Yellow – key words

## KS 3 Science Curriculum 2022-2023 Year 8

### Curriculum Intent

The science curriculum will provide all pupils, regardless of starting point with the foundation of knowledge needed to allow them to critically analyse and engage with science, technology and nature in the modern world.

### Curriculum Implementation

Year	Start When	No of lessons	Topic	Summary	Big Questions	Assessment for learning	Key Practicals
8	Autumn 2	21	Atoms, molecules and mixtures	This topic builds on concepts learned in topic 1. There is a review of atomic structure and the periodic table and further work on the concept of molecules. This leads into an explanation of types of mixtures and how to separate different types of mixtures. The final lessons introduce acids and alkalis as examples of solutions.	<ul style="list-style-type: none"><li>• What is an atom?</li><li>• What is a subatomic particle?</li><li>• What are the three subatomic particles?</li><li>• How are the subatomic particles arranged in an atom?</li><li>• What are the charges of protons, neutrons, and electrons?</li><li>• How can atoms be different to each other?</li><li>• How many different atoms are there?</li><li>• What is an element?</li><li>• What is the <b>periodic table</b> of the elements?</li><li>• What is a chemical symbol?</li><li>• What are the conventions for writing chemical symbols?</li><li>• What are the chemical symbols for oxygen, carbon, hydrogen, calcium, chlorine, magnesium, sodium</li><li>• Why is it important to represent elements as symbols on the periodic table?</li><li>• What is a molecule?</li><li>• What is a chemical bond?</li></ul>	Cold calling •Core questions as the plenary of every lesson. •10 low stakes multiple choice questions on key content half way through topic. •20 low stakes multiple choice questions at the end of the topic.	RP 3 Solubility: Pre-practical tasks Define and identify control variables Explain how to obtain a valid conclusion  RP3 Practical task Use appropriate apparatus consistently to measure and record measurements Use and develop systematic tables in which to record observations and data  Follow-up Draw an interpret scatter graphs Use collected data and scientific knowledge to draw conclusions

					<ul style="list-style-type: none"> <li>• What is a <b>Compound</b>?</li> <li>• What are the signs of a chemical reaction?</li> <li>• Use particle diagrams to describe the difference between atoms and molecules using carbon, oxygen and carbon dioxide</li> <li>• What is a property?</li> <li>• Why is an initial input of energy needed in order for a chemical reaction to take place?</li> <li>• How do compounds get their names?</li> <li>• What is a pure substance?</li> <li>• What is a mixture?</li> <li>• What is a suspension?</li> <li>• Describe filtration</li> <li>• What is a colloid?</li> <li>• How can the substances in a colloid be separated?</li> <li>• What is a solution?</li> <li>• What happens when a solute dissolves?</li> <li>• What is a solvent?</li> <li>• What is a solute?</li> <li>• What is solubility?</li> <li>• What factors affect solubility?</li> <li>• When is distillation used?</li> <li>• Explain how distillation separates a mixture</li> <li>• What is the principle behind chromatography</li> <li>• Explain how chromatography can be used to tell if a substance is pure or a mixture</li> </ul>	<ul style="list-style-type: none"> <li>• Exam style questions for homework.</li> <li>• Termly 60 minute test on previous content.</li> </ul>	<p>RP 4 Separating substances: Practical task 1 Separate an insoluble solid from a liquid</p> <p>RP4 Practical task 2 Separate a solute from a solution</p> <p>RP4 Follow-up Calculate percentage efficiency</p> <p>RP4 Practical task 3 Describe how to separate a mixture of solutes</p> <p>RP4 Follow-up Describe how to analyse a chromatogram</p>
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					<ul style="list-style-type: none"> <li>• What are some further uses for chromatography</li> <li>• what are acids and alkalis?</li> <li>• How can you test if something is acid or alkali?</li> <li>• What are some examples of acids or alkalis?</li> <li>• What is the pH scale?</li> <li>• What is the pH range for acids?</li> <li>• What is the pH range for bases?</li> <li>• Where on the scale are the strongest acids and bases</li> <li>• Explain how neutralisation occurs</li> <li>• What are the products of neutralisation?</li> <li>• Give some uses of neutralisation</li> </ul>		
8	Autumn 2	10	Genetics and evolution	<p>From KS2: recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents . Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to</p>	<ul style="list-style-type: none"> <li>• What is <b>variation</b>?</li> <li>• What are <b>characteristics</b>?</li> <li>• What are the two causes of variation?</li> <li>• Define environmental variation.</li> <li>• Give two examples of <b>environmental</b> variation.</li> <li>• Define <b>genetic (inherited)</b> variation.</li> <li>• Give two examples of genetic variation.</li> <li>• What causes genetic variation?</li> <li>• What are <b>gametes</b>?</li> <li>• What is meant by <b>continuous</b> variation?</li> <li>• What is meant by <b>discontinuous</b> variation?</li> <li>• Give an example of variation that is discontinuous.</li> <li>• Give an example of variation that is continuous.</li> </ul>	<p>Cold calling</p> <ul style="list-style-type: none"> <li>•Core questions as the plenary of every lesson.</li> <li>•10 low stakes multiple choice Questions on key content half way through topic.</li> <li>•20 low stakes multiple</li> </ul>	<p>RP- Investigating Spinners</p> <p>Independently plan an investigation</p> <p>RP- Spinners To accurately analyse and present data</p> <p>To evaluate confidence in the conclusion</p> <p>RP- Spinners Explain the importance of peer review</p>

				<p>evolution. From KS3, topic 6 - reproduction.</p>	<ul style="list-style-type: none"> <li>• What is meant by a <b>normal distribution</b>?</li> <li>• Where is DNA found in a cell?</li> <li>• What structures is <b>DNA</b> found in?</li> <li>• How many pairs of <b>chromosomes</b> are found in most body cells?</li> <li>• How are sex chromosomes different between males and females?</li> <li>• How many chromosomes found in gametes?</li> <li>• Why do gametes only contain 23 chromosomes?</li> <li>• What do we call a section of DNA that codes for a characteristic?</li> <li>• What is an adaptation?</li> <li>• Describe <b>natural selection</b>.</li> <li>• Define <b>evolution</b>.</li> <li>• Who came up with the theory of evolution by natural selection?</li> <li>• What happens to an organism that is not <b>adapted</b> to its environment?</li> <li>• What can happen to a species if it cannot adapt to changes in their environment?</li> <li>• Give four examples of causes of environmental change.</li> <li>• Why did the dinosaurs become <b>extinct</b>?</li> <li>• What is the evidence for the causes of dinosaur extinction?</li> <li>• Why do scientific theories sometimes change?</li> <li>• What is the evidence for human evolution?</li> </ul>	<p>choice questions at the end of the topic.</p> <ul style="list-style-type: none"> <li>• Exam style questions for homework.</li> <li>• Termly 60 minute test on previous content.</li> </ul>	<p>Independently evaluate procedures and data</p>
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8	Spring 1	15	Chemical reactions 1	<p>This topic looks at chemical reactions, chemical symbols and how to use these in a balanced symbol equation. Word equations and identifying reactants and products. This then leads onto the specific ideas about respiration and photosynthesis as two main chemical reactions that students need to know about.</p>	<ul style="list-style-type: none"> <li>• What are the features of a physical change?</li> <li>• How is a chemical change different to a physical change?</li> <li>• What is a chemical reaction?</li> <li>• How can elements be changed into compounds?</li> <li>• What observations are proof of chemical reactions?</li> <li>• What is a word equation?</li> <li>• What are reactants?</li> <li>• What are products?</li> <li>• What is a molecular substance?</li> <li>• Name five molecular substances</li> <li>• What is a chemical formula?</li> <li>• What do the small numbers in a chemical formula represent?</li> <li>• What is the chemical formula for hydrogen?</li> <li>• What is the chemical formula for oxygen?</li> <li>• What is the chemical formula for water?</li> <li>• What is the chemical formula for methane?</li> <li>• What is the chemical formula for carbon dioxide?</li> <li>• What is the chemical formula for nitrogen?</li> <li>• What is air?</li> <li>• What is a symbol equation?</li> <li>• How do you balance an equation?</li> <li>• What is the law of conservation of mass?</li> <li>• What is photosynthesis?</li> </ul>	<p>Core questions as the plenary of every lesson.</p> <ul style="list-style-type: none"> <li>• 10 low stakes multiple choice Questions on key content half way through topic.</li> <li>• 20 low stakes multiple choice questions at the end of the topic.</li> <li>• Exam style questions for homework.</li> <li>• Termly 60 minute test on previous content.</li> </ul>	<p>RP5 Investigating photosynthesis: Pre-Practical tasks</p> <p>Describe how scientific hypotheses and theories develop</p> <p>Plan experiments to test ideas</p> <p>RP5 Practical Task bMake sufficient observations with an appropriate degree of accuracy</p> <p>RP5 Follow-up Interpret and plot line graphs and scatter graphs</p> <p>Identify patterns, correlations and linear relationships</p>
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					<ul style="list-style-type: none"> <li>• What are the reactants of photosynthesis?</li> <li>• What are the products of photosynthesis?</li> <li>• Represent photosynthesis with a word equation.</li> <li>• Represent photosynthesis with a symbol equation.</li> <li>• What type of chemical reaction is photosynthesis?</li> <li>• Why do plants photosynthesise?</li> <li>• Where does the energy needed for photosynthesis come from?</li> <li>• Where is the energy transferred too?</li> <li>• What is aerobic respiration?</li> <li>• What does aerobic mean?</li> <li>• What are the reactants of respiration?</li> <li>• What are the products of respiration?</li> <li>• Represent respiration with a word equation.</li> <li>• Represent respiration with a symbol equation.</li> <li>• What type of chemical reaction is respiration?</li> <li>• Why does respiration occur?</li> <li>• Where is the energy released from?</li> </ul>		
8	Spring 1	15	Electricity and forces		<ul style="list-style-type: none"> <li>• What is an atom made up of?</li> <li>• How can the charge on materials change?</li> <li>• Why is the charge on a material called static electricity?</li> <li>• What is an electric field?</li> <li>• What is <b>current</b>?</li> <li>• How is the circuit supplied with energy?</li> </ul>	<p>Cold calling Core questions as the plenary of every lesson. •10 low stakes multiple</p>	<p>RP 5: Power 1 Use conventions to draw circuit diagrams Explain why range of data is important RP 5 Power 2 Collect a good range</p>

					<ul style="list-style-type: none"> <li>• How is current measured?</li> <li>• What is a <b>series circuit</b>?</li> <li>• What are the properties of a series circuit?</li> <li>• What is a <b>parallel circuit</b>?</li> <li>• What are the properties of a parallel circuit?</li> <li>• What is voltage?</li> <li>• How is voltage measured?</li> <li>• Does voltage change as you go round a series circuit?</li> <li>• How does voltage change as you go round a parallel circuit?</li> <li>• How do you set up a voltmeter in comparison to an ammeter?</li> <li>• What is <b>resistance</b>?</li> <li>• How do we calculate resistance?</li> <li>• What are the units for resistance?</li> <li>• What does the resistance of a wire depend on?</li> <li>• what is a resistor?</li> <li>• What is a conducting <b>component</b>?</li> <li>• What is an insulating component?</li> <li>• What kind of current is supplied by the mains in the UK?</li> <li>• What is the difference between ac and dc?</li> <li>• What are the components of a three pin plug?</li> <li>• What are the three wires that you can find in a plug?</li> <li>• What are some hazards of electrical wiring?</li> <li>• what is the definition of power?</li> </ul>	<p>choice Questions on key content half way through topic.</p> <ul style="list-style-type: none"> <li>•20 low stakes multiple choice questions at the end of the topic.</li> <li>•Exam style questions for homework.</li> <li>•Termly 60 minute test on previous content.</li> </ul>	<p>RP 5- Power 3</p> <p>Produce explanations backed up using scientific knowledge</p>
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					<ul style="list-style-type: none"> <li>• What factors affect the rate of energy transfer by current in a circuit?</li> <li>• What is a fuse?</li> <li>• Why are different fuses used for different electrical devices?</li> <li>• What is a magnet?</li> <li>• What is the structure of a bar magnet?</li> <li>• What happens when two magnets come into close proximity?</li> <li>• What is a magnetic field?</li> <li>• How is a magnetic field represented?</li> <li>• What is a compass?</li> <li>• Why does a compass point North?</li> </ul>		
8	Spring 2	15	The periodic table		<ul style="list-style-type: none"> <li>• In what order were elements placed in early tables?</li> <li>• Why were all the elements not in early tables?</li> <li>• Why was Mendeleev's table so significant?</li> <li>• Why did other scientists believe his periodic table?</li> <li>• What is a period and what do the elements within a period have in common?</li> <li>• What is a group and what do the elements within a group have in common?</li> <li>• Where do we find the metals in the periodic table?</li> <li>• Describe the properties of metals</li> <li>• Describe some observations and tests we can do to decide if a substance is a metal or a non metal</li> </ul>	<p>Cold calling Core questions as the plenary of every lesson.</p> <ul style="list-style-type: none"> <li>•10 low stakes multiple choice Questions on key content half way through topic.</li> <li>•20 low stakes multiple choice questions</li> </ul>	<p>RP 4- Rate of reaction 1</p> <p>Independently collect and present accurate and valid data</p> <p>RP 4- Rate of reaction 2</p> <p>Collect valid and accurate data</p> <p>RP 4- Rate of reaction</p> <p>Analyse and Evaluate data</p>



					<ul style="list-style-type: none"> <li>• Explain the difference between a <b>physical property</b> and a <b>chemical property</b></li> <li>• What are the physical properties of non-metals</li> <li>• Why do elements form ions?</li> <li>• What is the sign of the charge on a metal ion?</li> <li>• What is the sign of the charge on a non-metal ion?</li> <li>• Non-metals react with oxygen to form what type of oxides?</li> <li>• Metals react with oxygen to form what type of <b>oxides</b>?</li> <li>• How do you test for pH?</li> <li>• What type of <b>substance</b> is made when a metal reacts with oxygen?</li> <li>• What is <b>oxidation</b>?</li> <li>• What is <b>reduction</b>?</li> <li>• What <b>reaction</b> produces iron oxide?</li> <li>• What type of reaction produces iron oxide?</li> <li>• What type of reaction would extract iron from its oxide?</li> <li>• Explain what determines how reactive a metal is</li> <li>• Explain why a metal would have a greater tendency to lose electrons and be more reactive</li> <li>• Put these metals into a <b>reactivity</b> series for their reactions with water starting with the most reactive: calcium, lithium, potassium, magnesium, sodium</li> <li>• Put these metals into a reactivity series for their reactions with dilute</li> </ul>	<p>at the end of the topic.</p> <ul style="list-style-type: none"> <li>• Exam style questions for homework.</li> <li>• Termly 60 minute test on previous content.</li> </ul>	
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					<p>acids starting with the most reactive: iron, zinc, magnesium, copper</p> <ul style="list-style-type: none"><li>• What 2 non-metals are included in the reactivity series?</li><li>• What name is given to a reaction in which a less reactive metal is replaced by a more reactive metal?</li><li>• Looking at the reactivity series on the back of the periodic table predict what would happen if iron sulfate is reacted with magnesium. Write the word equation for the reaction</li><li>• Explain why gold is found as a pure element on Earth</li><li>• Explain how we obtain the many metals we use from the compounds they form in the Earth's crust?</li><li>• How are metals less reactive than carbon extracted? Give examples of 3 of these metals</li><li>• What is the name given to the group 0 elements?</li><li>• What are their chemical properties and why do they behave this way?</li><li>• How do the boiling points change as you go down the group?</li><li>• What is the name given to the group 1 elements?</li><li>• How reactive are the group 1 metals and why is this?</li><li>• How does the reactivity change as you go down the group?</li><li>• What is the name given to the group 7 elements?</li><li>• How reactive are the halogens and why is this?</li></ul>	
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					<ul style="list-style-type: none"> <li>• How does the reactivity change as you go down the group?</li> </ul>		
8	Spring 2	15	Chemical reactions 2	<p>This topic looks at combustion and what is needed for combustion to take place, starting with the fire triangle. Students then explore how complete and incomplete combustion differ. They then go on to learn about energy in reactions and how energy is transferred during bond making and bond breaking.</p>	<ul style="list-style-type: none"> <li>• What is the fire triangle?</li> <li>• What are the different ways of putting out a fire?</li> <li>• What is complete combustion?</li> <li>• Give an example of a hydrocarbon</li> <li>• What are the reactants in combustion?</li> <li>• What are the products in combustion?</li> <li>• How do you test for carbon dioxide?</li> <li>• How do you test for water as a product of combustion?</li> <li>• What is produced during incomplete combustion?</li> <li>• What is an exothermic reaction?</li> <li>• What is an endothermic reaction?</li> <li>• give an example of a chemical reaction that is exothermic</li> <li>• State two everyday uses of exothermic reactions</li> <li>• give an example of a chemical reaction that is endothermic</li> <li>• State one everyday use of endothermic reactions</li> <li>• What is the law of conservation of energy?</li> <li>• What must happen to particles of elements if they are to react?</li> <li>• A chemical reaction can be thought of as happening in two stages explain what happens in stage one</li> <li>• What happens in stage 2?</li> <li>• Define activation energy</li> <li>• How do catalysts speed up reactions?</li> </ul>	<p>Cold calling Core questions as the plenary of every lesson.</p> <ul style="list-style-type: none"> <li>•10 low stakes multiple choice Questions on key content half way through topic.</li> <li>•20 low stakes multiple choice questions at the end of the topic.</li> <li>•Exam style questions for homework.</li> <li>•Termly 60 minute test on previous content.</li> </ul>	<p>RP 3- Combustion 1 Plan an investigation to answer a question</p> <p>RP 3- Combustion 2 Collect valid and accurate data</p> <p>RP 3- Combustion 3 Write a conclusion to an investigation</p>

8	Summer 1	15	Waves and radiation	This topic looks at explaining mechanical Waves and giving examples, electromagnetic radiation and some examples and nuclear radiation.	<ul style="list-style-type: none"> <li>• Name five energy stores</li> <li>• Give 4 ways that energy can be transferred</li> <li>• What is a wave?</li> <li>• What is a mechanical wave?</li> <li>• Describe the motion of particles of a transverse wave</li> <li>• What type of wave is a water wave?</li> <li>• Describe what happens when waves hit a barrier</li> <li>• Explain why waves become smaller and further apart as they move further from the source</li> <li>• Describe the motion of particles of a longitudinal wave</li> <li>• What type of wave is a sound wave?</li> <li>• Explain why sound becomes quieter the further you are from the source</li> <li>• Define amplitude</li> <li>• Define wavelength</li> <li>• Define frequency</li> <li>• What is the equation for calculating frequency?</li> <li>• In the frequency calculation, what does T represent?</li> <li>• What are the most commonly used units for frequency?</li> <li>• What is a hypothesis?</li> <li>• How does length affect pitch?</li> <li>• Why is energy transferred more easily in solids?</li> <li>• How does sound change as you move further from the source?</li> <li>• Why does sound change as you move further from the source?</li> </ul>	Cold calling Core questions as the plenary of every lesson. •10 low stakes multiple choice Questions on key content half way through topic. •20 low stakes multiple choice questions at the end of the topic. •Exam style questions for homework. •Termly 60 minute test on previous content.	21. RP - Investigating refraction Select variables for an investigation Plan to safely collect valid and accurate data 22. RPi Investigating refraction Present data appropriately Evaluate data Analyse scientific text and diagrams
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					<ul style="list-style-type: none"><li>• Why does sound travel fastest in solids?</li><li>• What is the average speed of sound in air?</li><li>• What is the formula for calculating speed?</li><li>• Describe the energy transfer that takes place in your ears and microphones.</li><li>• What is the hearing range for humans in hertz?</li><li>• What is an echo?</li><li>• Name one organism that uses echolocation?</li><li>• Give one use of sonar.</li><li>• Give one use of ultrasound.</li><li>• What is an electromagnetic wave?</li><li>• What is a vacuum?</li><li>• What is the average speed of electromagnetic waves?</li><li>• What is the relationship between wavelength and the energy transferred?</li><li>• What happens when light hits a transparent object?</li><li>• What happens when light hits a translucent object?</li><li>• What happens when light hits an opaque object?</li><li>• Draw a diagram to show a light ray.</li><li>• Define incident ray.</li><li>• Define reflected ray.</li><li>• What is a plane mirror?</li><li>• Describe the relationship between the angle of incidence and the angle of reflection.</li></ul>	
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					<p>reflection if light is reflected off a plane mirror</p> <ul style="list-style-type: none"><li>• Give one use of infrared radiation</li><li>• Give one disadvantage of infrared radiation</li><li>• Give one use of radio waves</li><li>• Give one disadvantage of radio waves</li><li>• Give one use of ultraviolet radiation</li><li>• Give one use of X-rays</li><li>• Give one use of Gamma rays</li><li>• What is <b>ionising radiation</b>?</li><li>• Why is ionising radiation dangerous</li><li>• What happens when light hits a <b>transparent</b> object</li><li>• What happens when light hits a <b>translucent</b> object</li><li>• What happens when light hits an <b>opaque</b> object</li><li>• Draw a diagram to show a light ray</li><li>• Define incident ray</li><li>• Define reflected ray</li><li>• What is a plane mirror?</li><li>• Describe the relationship between the angle of incidence and the angle of reflection if light is reflected off a plane mirror</li><li>• Give one use of <b>infrared</b> radiation</li><li>• Give one disadvantage of infrared radiation</li><li>• Give one use of radio waves</li><li>• Give one disadvantage of radio waves</li><li>• Give one use of microwaves</li><li>• Give one disadvantage of microwaves</li><li>• Give one use of ultraviolet radiation</li><li>• Give one use of X-rays</li></ul>		
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					<ul style="list-style-type: none"> <li>• Give one use of Gamma rays</li> <li>• What is ionising radiation?</li> <li>• Why is ionising radiation dangerous?</li> <li>• What does the acronym SPF mean?</li> <li>• How do UV beads work?</li> <li>• What are the seven colours that make up visible light?</li> <li>• What are the primary colours of light?</li> <li>• What are the secondary colours of visible light?</li> <li>• Define refraction</li> <li>• Which part of your eye converts energy transferred by waves to energy transferred by electricity?</li> <li>• What do rod cells detect?</li> <li>• What do cone cells detect?</li> <li>• How do we see objects?</li> <li>• Why do we see objects as different colours?</li> <li>• How do filters work?</li> <li>• Give three types of nuclear radiation</li> <li>• What is the difference between alpha and beta radiation, and gamma radiation?</li> <li>• Give one use of alpha radiation</li> <li>• Give one use of beta radiation</li> <li>• Give one use of gamma radiation</li> <li>• Why is nuclear radiation dangerous</li> </ul>		
8	Summer 1	12	Biodiversity and plant reproduction	This is topic follows on from year 7 Reproduction. This topic looks at plant reproduction and the importance of variety in plants. It revisits the	<ul style="list-style-type: none"> <li>• What is <b>variation</b>?</li> <li>• What are the causes of variation?</li> <li>• Why is variation important?</li> <li>• What is <b>biodiversity</b></li> <li>• Why is biodiversity important</li> <li>• What changes may occur in an <b>ecosystem</b>?</li> </ul>	Cold calling Core questions as the plenary of every lesson.	RP 2- Sampling 1 Describe how to sample an ecosystem

			<p>two types of reproduction and looks at examples of both in plants. Biodiversity and the importance of biodiversity is also discussed.</p>	<ul style="list-style-type: none"> <li>• Why do humans need plants and animals?</li> <li>• Why do organisms have scientific names?</li> <li>• What are the <b>conventions</b> for writing scientific names?</li> <li>• How do we classify organisms?</li> <li>• What is <b>asexual reproduction</b>?</li> <li>• What are <b>clones</b>?</li> <li>• How do plants reproduce <b>asexually</b>?</li> <li>• What are the advantages of asexual reproduction?</li> <li>• What are the disadvantages of asexual reproduction ?</li> <li>• What is sexual reproduction?</li> <li>• What is fertilisation?</li> <li>• Where are the male <b>gametes</b> found?</li> <li>• Where is the female plant <b>gametes</b> found?</li> <li>• How is the structure of the flower adapted for reproduction?</li> <li>• How are wind-<b>pollinated</b> flowers different to animal-pollinated flowers?</li> <li>• What is the importance of <b>fertilisation</b>?</li> <li>• Why is pollination important?</li> <li>• Why is the decline of pollinators a concern?</li> <li>• What are the advantages of cross pollination?</li> <li>• What is a hybrid?</li> <li>• How are seeds dispersed?</li> <li>• What is the importance of seed dispersal?</li> <li>• Why should seeds be preserved?</li> </ul>	<ul style="list-style-type: none"> <li>•10 low stakes multiple choice Questions on key content half way through topic.</li> <li>•20 low stakes multiple choice questions at the end of the topic.</li> <li>•Exam style questions for homework.</li> <li>•Termly 60 minute test on previous content.</li> </ul>	<p>RP 2- Sampling 2 Collect accurate data RP 2- Sampling Calculate an accurate estimate</p>
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					<ul style="list-style-type: none"> <li>• How are seeds preserved?</li> </ul>		
8	Summer 2	15	Energy and ecosystems	This topic builds on the foundations of energy and how it is transferred through life in different ecosystems.	<ul style="list-style-type: none"> <li>• What do food chains represent?</li> <li>• What is at the beginning of all food chains?</li> <li>• Why are photosynthetic organisms important?</li> <li>• What is meant by biomass?</li> <li>• Give two examples of photosynthetic organisms.</li> <li>• Define a producer.</li> <li>• Define a primary consumer.</li> <li>• Define a secondary consumer.</li> <li>• Define a tertiary consumer.</li> <li>• What is meant by a trophic level?</li> <li>• What do food webs represent?</li> <li>• What does interdependence mean?</li> <li>• How much energy is transferred from light by plants during photosynthesis?</li> <li>• How much energy is transferred from one trophic level to the next?</li> <li>• What is useful energy?</li> <li>• What is wasted energy?</li> <li>• What is energy dissipation?</li> <li>• What is power?</li> <li>• How do we calculate power?</li> <li>• What do we use energy for?</li> <li>• What resources do we use for energy?</li> <li>• What are renewable energy resources?</li> <li>• What are non-renewable energy resources?</li> <li>• How do fossil fuel power stations generate electricity?</li> <li>• What chemical reaction occurs in power stations?</li> </ul>	<p>Core questions as the plenary of every lesson.</p> <ul style="list-style-type: none"> <li>•10 low stakes multiple choice Questions on key content half way through topic.</li> <li>•20 low stakes multiple choice questions at the end of the topic.</li> <li>•Exam style questions for homework.</li> <li>•Termly 60 minute test on previous content.</li> </ul>	<p>RP 2- Energy in fuel 1</p> <p>RP 2- Energy in fuel 2</p> <p>RP 2- Energy in fuel 3</p>

					What is the equation for this reaction?		
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