



Term 3			
Week	Unit	Learning focus	Science Understanding
1	Evolution	<ul style="list-style-type: none"> Discover and describe how Darwin and Wallace both managed to come to similar conclusions on evolution. 	<ul style="list-style-type: none"> The theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence VCSSU120 Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community VCSSU114 The values and needs of contemporary society can influence the focus of scientific research VCSSU116
2		<ul style="list-style-type: none"> Explain how natural selection is the mechanism of evolution Describe how different selection pressures cause divergence, and similar selection pressures cause convergence. 	
3-4		<ul style="list-style-type: none"> Explain how fossil records provide evidence for evolution. Explore other forms of evidence that support evolution. Investigate how DNA and proteins provide chemical evidence for evolution. 	
5		<ul style="list-style-type: none"> Describe how humans artificially select traits Describe how natural selection affects the frequency of alleles 	
6		Chemistry	
7	<ul style="list-style-type: none"> Explain the properties of acid reactions Remember and apply solubility rules to predict the formation of precipitates. Describe what happens in a combustion reaction 		
8	<ul style="list-style-type: none"> Investigate the properties of polymers and monomers Explain the factors that affect the rate of reaction (temperature, concentration, surface area and stirring). 		



			students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data VCSIS137
9		<ul style="list-style-type: none"> Describe the importance of catalysts to increase the rate of reaction. Explore how chemistry is being used to help the environment 	
Term 4			
Week	Unit	Learning focus	Science Understanding
1	Physics	<ul style="list-style-type: none"> recognising that a stationary object, or a moving object with constant motion, has balanced forces acting on it 	The description and explanation of the motion of objects involves the interaction of forces and the exchange of energy and can be described and predicted using the laws of physics (VCSU133)
2-3		<ul style="list-style-type: none"> gathering data to analyse everyday motion produced by forces, for example, measurements of distance and time, velocity, mass, acceleration and force 	
4-5		<ul style="list-style-type: none"> investigating the effects of applying different forces, including Earth's gravitational force, to familiar objects 	
6	Scientific Investigations	<ul style="list-style-type: none"> formulating questions that can be investigated within the scope of the classroom or field with available resources developing ideas from students' own or others' investigations and experiences to investigate further revising and refining research questions to target specific information and data collection or finding a solution to the specific problem identified 	Formulate questions or hypotheses that can be investigated scientifically, including identification of independent, dependent and controlled variables (VCSIS134)
7		<ul style="list-style-type: none"> explaining the choice of variables to be controlled, changed and measured in an investigation identifying and managing potential hazards of chemicals or biological materials used in experimental investigations or fieldwork deciding how much data are needed to obtain reliable measurements 	Independently plan, select and use appropriate investigation types, including fieldwork and laboratory experimentation, to collect reliable data, assess risk and address ethical



		<ul style="list-style-type: none"> • using modelling and simulations, including using digital technologies, to investigate situations and events • using the internet to facilitate collaboration in joint projects and discussions 	issues associated with these investigation types (VCSIS135)
8		<ul style="list-style-type: none"> • applying specific skills in the use of scientific instruments • selecting and using probes and data loggers to record information • identifying how human error can influence the reliability of data 	Select and use appropriate equipment and technologies to systematically collect and record accurate and reliable data, and use repeat trials to improve accuracy, precision and reliability (VCSIS136)
9		<ul style="list-style-type: none"> • using spreadsheets to present data in tables and graphical forms and to carry out mathematical analyses of data • designing and constructing appropriate graphs to represent data and to look for trends and patterns 	Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137)
10		<ul style="list-style-type: none"> • exploring relationships between variables using spreadsheets, databases, tables, charts, graphs and statistics • describing data properties (for example mean, median, range, outliers, large gaps visible on a graph) and their significance for a particular investigation sample, acknowledging uncertainties 	Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138)
		<ul style="list-style-type: none"> • discussing what is meant by 'validity' and how we can evaluate the validity of information in secondary sources • judging the validity of science-related media reports and how these reports might be interpreted by the public • using primary or secondary scientific evidence to support or refute a conclusion or claim • suggesting more than one possible explanation of the data presented 	Use knowledge of scientific concepts to evaluate investigation conclusions, including assessing the approaches used to solve problems, critically analysing the validity of information obtained from primary and secondary sources, suggesting possible alternative explanations and describing specific ways to improve the quality of data (VCSIS139)



		<ul style="list-style-type: none">• using secondary sources as well as students' own findings to help explain a scientific concept• using a range of representations, including mathematical and symbolic forms, to communicate science ideas• presenting results and ideas using formal experimental reports, oral presentations, multimodal presentations, poster presentations and contributing to group discussions	Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (VCSIS140)
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