

Y6 Science Bundle 2020-21

Year 6	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Autumn	07.09.20	14.09.20	21.09.20	28.09.20	05.10.20	12.10.20	19.10.20	02.11.20	09.11.20	16.11.20
Winter	23.11.20	30.11.20	07.12.20	14.12.20	04.01.21	11.01.21	18.01.21	25.01.21	01.02.21	08.02.21
				Christmas						
Spring	22.02.21	01.03.21	08.03.21	15.03.21	22.03.21	29.03.21	19.04.21	26.04.21	03.05.21	10.05.21
										SATS?
Summer	17.05.21	24.05.21	07.06.21	14.06.21	21.06.21	28.06.21	05.07.21	12.07.21	19.07.21	
	SATS?									

	WORKING SCIENTIFICALLY	CYCLE ONE: Chemistry	CYCLE TWO: Physics (A)	CYCLE TWO: Physics (B)	CYCLE THREE: Biology	CYCLE FOUR: Biology
Y6	<p>Pupils Should be Taught to:</p> <ul style="list-style-type: none"> Plan enquiries, including recognising and controlling variables where necessary. Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work. Take measurements, using a range of scientific equipment, with increasing accuracy and precision. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models. Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions. Present findings in written form, displays and other presentations. Use test results to make predictions to set up 	<p>PROPERTIES AND CHANGES OF MATERIALS</p> <ul style="list-style-type: none"> <i>Demonstrate that dissolving, mixing and changes of state are reversible changes*.</i> <i>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda*.</i> <p style="text-align: center;">*Recall from Y5 NC</p> <ul style="list-style-type: none"> <i>Explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes**.</i> <i>Explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda**.</i> <i>Find out how scientists create new materials, for</i> 	<p>LIGHT</p> <ul style="list-style-type: none"> Understand that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes. 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>ELECTRICITY</p> <ul style="list-style-type: none"> Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram. 	<p>ANIMALS INCLUDING HUMANS</p> <ul style="list-style-type: none"> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions. Describe the ways in which nutrients and water are transported within animals, including humans. <p>LIVING THINGS IN THEIR ENVIRONMENT:</p> <ul style="list-style-type: none"> Describe how living things are classified into broad groups according to common observable characteristics. Give reasons for classifying plants and animals based on specific characteristics. 	<p>TO UNDERSTAND EVOLUTION AND INHERITANCE:</p> <ul style="list-style-type: none"> 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 evolution.

	<p>further comparative and fair tests.</p> <ul style="list-style-type: none">• Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments	<p><i>example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton**.</i></p> <p>** Y5 Properties and Changes of Materials Non-Statutory</p>				
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Week	Y6 CYCLE ONE CHEMISTRY: PROPERTIES AND CHANGES OF MATERIALS			
	Lesson Content	Vocabulary		
1	Vocabulary		Working Scientifically:	
2	<p>Recall from Y4: Research the temperature at which materials change state</p> <p>Recall from Y5: Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>Teach for Y6: Demonstrate that dissolving, mixing and changes of state are reversible changes</p>	test (v)	Tier 2/3	
3	<p>Recall from Y5: Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Teach for Y6: Explore reversible changes, including, evaporating, filtering and sieving.</p>	identify (v)	chemistry	
4	<p>Recall from Y5: Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>Teach for Y6: Explore reversible changes, including, melting and dissolving, recognising that melting and dissolving are different processes.</p>	classify (v)	States of matter	
5	<p>Recall from Y5: Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible</p> <p>Teach for Y6: Explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda.</p>	observe (v)	solid	
6	Contingency Week		compare (v)	liquid
7	<p>Recall from Y5: N/A</p> <p>Teach for Y6: Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.</p>	recognise (v)	gas	
8	<p>Recall from Y5: N/A</p> <p>Teach for Y6: Find out how scientists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton.</p>	measure (v)	particles	
9	<p>Recall from Y5: N/A</p> <p>Teach for Y6: Find out how scientists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton.</p>	record (v)	oxidisation	
10	Contingency Week		data (n)	evaporation
Quiz		enquire (v)	filtering	
		investigate (v)	sieving	
		answer (v)	dissolving	
		suggest (v)	melting	
		report (v)	oxidisation	
		explain (v)	solubility	
		predict (v)	solution	
		conclude (v)	reversible	
		associate (v)	irreversible	
		precision		
		causal relationships		
		fair test		
		variables: independent, dependent, control		

Week	Y6 CYCLE TWO PHYSICS: LIGHT (A) & ELECTRICITY (B)	
	Lesson Content	Vocabulary
1	Vocabulary	Working Scientifically: test (v) identify (v) classify (v) observe (v) compare (v) recognise (v) measure (v) record (v) data (n) enquire (v) investigate (v) answer (v) suggest (v) report (v) explain (v) predict (v) conclude (v) associate (v) precision causal relationships fair test variables: independent, dependent, control
2	Recall from Y5: N/A Teach for Y6: Recognise that light travels in straight lines. Use the knowledge that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes. 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.	
3	Recall from Y5: N/A Teach for Y6: Design and make a periscope, using the idea that light appears to travel in straight lines to explain how it works.	
4	Contingency Week /Christmas	
5 Quiz	Recall from Y5: N/A Teach for Y6: Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.	
6	Recall from Y5: N/A Teach for Y6: Investigate the relationship between light sources, objects and shadows by using shadow puppets.	
7	Recall from Y4: Construct a simple series circuit Teach for Y6: Use recognised symbols when representing a simple circuit in a diagram.	
8	Recall from Y5: N/A Teach for Y6: Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.	
9	Recall from Y5: N/A Teach for Y6: Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.	
10 Quiz	Contingency Week	

Week	Y6 CYCLE THREE BIOLOGY: (A) ANIMALS INCLUDING HUMANS & (B) LIVING THINGS IN THEIR ENVIRONMENTS		
	Lesson Content	Vocabulary	
1	Vocabulary		
2	<p>Recall from Y5: N/A</p> <p>Teach for Y6: Identify and name the main parts of the human circulatory system (including heart, lungs, arteries and veins) and their basic function.</p>	<p>Working Scientifically:</p> <p>test (v) identify (v) classify (v) observe (v) gather (v) record (v) data (n) ask (v) answer (v) suggest (v)</p> <p>Tier 2/3 biology</p> <p>circulatory system heart lungs blood vessels: veins & arteries atrium ventricle oxygen carbon dioxide nutrients</p> <p>distinguish organism invertebrates vertebrates: reptiles, mammals, birds, fish, amphibians</p>	
3	<p>Recall from Y5: N/A</p> <p>Teach for Y6: Describe the function and anatomy of the heart (left atrium, right atrium, left ventricle, right ventricle), blood vessels and blood.</p>		
4	<p>Recall from Y3: Identify that animals, including humans, need the right types and amounts of nutrition. Investigate and discuss the importance, for humans, of a balanced diet.</p> <p>Teach for Y6: Recognise the importance of diet, exercise, (drugs) and lifestyle on the way the human body functions and maintaining a healthy circulatory system.</p>		
5 Quiz	<p>Recall from Y5: N/A</p> <p>Teach for Y6: Describe the ways in which nutrients and water are transported within animals, including humans.</p>		
6	Contingency Week		
7	<p>Recall from Y4: Recognise that vertebrates can be grouped in a variety of ways. Examine the characteristics of that enable us to classify vertebrates as mammals, birds, fish, reptiles and amphibians.</p> <p>Teach for Y6: Using a classification key, observe and describe how living things (including mammals, birds, fish, amphibians, reptiles and invertebrates) are classified into broad groups according to common observable characteristics.</p>		
8	<p>Recall from Y4: Explore and use classification keys to identify the name of a specific organism.</p> <p>Teach for Y6: Give reasons for classifying plants and animals (organisms) based on their specific characteristics. Develop a specific description to distinguish each group.</p>		
9	<p>Recall from Y4: Explore, use and construct classification keys to identify the name of a specific animal.</p> <p>Teach for Y6: Construct a classification key to identify a specific organism (including plants and animals).</p>		
10 Quiz	Contingency Week		

Y6 CYCLE FOUR BIOLOGY: TO UNDERSTAND EVOLUTION AND INHERITANCE			
Week	Lesson Content	Vocabulary	
1	Vocabulary	Working Scientifically: test (v) identify (v) classify (v) observe (v) gather (v) record (v) data (n) ask (v) answer (v) suggest (v)	Tier 2/3 biology evolution (natural selection) adaptation inheritance genetics offspring environment habitats micro habitats
2	<i>Recall from Y5: N/A</i> Teach for Y6: Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.		
3	<i>Recall from Y5: N/A</i> Teach for Y6: Find out about the work of Charles Darwin and the concepts of evolution and adaptation.		
4	<i>Recall from Y5: N/A</i> Teach for Y6: Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.		
5 Quiz	<i>Recall from Y5: N/A</i> Teach for Y6: Explore the concept of inheritance (within humans and animals) and attributes that have been inherited (genetically) from previous generations.		
6	Contingency Week		
7	<i>Recall from Y5: N/A</i> Teach for Y6: Identify the variety of habitats and micro habitats that can exist within an environment.		
8	<i>Recall from Y5: N/A</i> Teach for Y6: Identify how animals and plants are adapted to suit their environment in different ways.		
9	<i>Recall from Y5: N/A</i> Teach for Y6: Investigate how adaptation may lead to evolution.		
10 Quiz	Contingency Week		