

Y5 Science Bundle 2020-21

Year 5	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
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	

	WORKING SCIENTIFICALLY	CYCLE ONE: Chemistry	CYCLE TWO: Physics (A)	CYCLE TWO: Physics (B)	CYCLE THREE: Biology	CYCLE FOUR: Biology
Y5	<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 further comparative and fair tests. 	<p>PROPERTIES AND CHANGES OF MATERIALS</p> <ul style="list-style-type: none"> Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets. Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. 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. Demonstrate that dissolving, mixing and changes of state are reversible changes. 	<p>TO UNDERSTAND THE EARTH'S MOVEMENT IN SPACE:</p> <ul style="list-style-type: none"> Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. <i>Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night*.</i> <p style="text-align: right;">*Non-Statutory</p>	<p>FORCES</p> <ul style="list-style-type: none"> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces. Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect. <i>Explore: the effects of air resistance by observing how objects (such as parachutes or sycamore seeds) fall; forces that make things begin to move, get faster or slow down; the effects of friction on movement and how it slows or stops moving objects*.</i> <p style="text-align: right;">*Non-Statutory</p>	<p>ANIMALS INCLUDING HUMANS</p> <ul style="list-style-type: none"> Describe the changes as humans develop to old age. <i>Draw a timeline to indicate stages in the growth and development of humans*.</i> <i>Find out and record the length and mass of a baby as it grows*.</i> <i>Work scientifically by researching the gestation periods of other animals and comparing them with humans*.</i> <p style="text-align: right;">*Non-Statutory</p>	<p>LIVING THINGS AND THEIR ENVIRONMENT</p> <ul style="list-style-type: none"> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. <i>Observe life-cycle changes in a variety of living things, for example plants in the vegetable garden or flower border, and animals in the local environment*.</i> <i>Find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall*.</i> <i>Find out about different types of reproduction, including sexual and asexual reproduction in plants and sexual reproduction in animals*.</i> <p style="text-align: right;">*Non-Statutory</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	<ul style="list-style-type: none">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.				
--	--	---	--	--	--	--

Week	Y5 CYCLE ONE CHEMISTRY: PROPERTIES AND CHANGES OF MATERIALS	
	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) precision causal relationships fair test/variables Tier 2/3 Chemistry states of matter substance solution materials solid liquid gas particles temperature Celsius (°C) oxygen evaporation condensation oxidation filtering sieving dissolving melting hardness solubility solution conductivity/conductor insulator
2	Recall from Y4: Compare and group materials together, according to whether they are solids, liquids or gases. Teach for Y5: Compare and group together everyday materials (based on evidence from comparative and fair tests) including their hardness and solubility	
3	Recall from Y4: N/A Teach for Y5: Compare and group together everyday materials (based on evidence from comparative and fair tests) including their conductivity (electrical and thermal), and response to magnets.	
4	Recall from Y4: N/A Teach for Y5: Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	
5 Quiz	Recall from Y4: <i>Group and classify (investigate) a variety of different materials, exploring the effect of temperature on substances such as chocolate, butter, cream.</i> Teach for Y5: Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.	
6	Contingency Week	
7	Recall from Y4: N/A Teach for Y5: Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.	
8	Recall from Y4: <i>Pupils should observe water as a solid, a liquid and a gas and should note the changes to water when it is heated or cooled*.</i> Teach for Y5: Demonstrate that dissolving, mixing and changes of state are reversible changes.	
9	Recall from Y4: N/A Teach for Y5: Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible.	
10 Quiz	Contingency Week	

Week	Y5 CYCLE TWO PHYSICS		
	PHYSICS A: UNDERSTANDING THE EARTH'S MOVEMENT IN SPACE		PHYSICS B: FORCES
	Lesson Content	Vocabulary	
1	Vocabulary		Working Scientifically:
2	<p>Recall from Y4: N/A</p> <p>Teach for Y5: Describe the movement of the Earth (and other planets) relative to the Sun in the solar system. <i>Be able to explain day and night*.</i></p>	test (v)	Tier 2/3
3	<p>Recall from Y4: N/A</p> <p>Teach for Y5: Describe the Sun, Earth and Moon as approximately spherical bodies. Describe the movement of the Moon relative to the Earth.</p>	identify (v)	Physics
4	Contingency Week /Christmas		classifying (v)
5	<p>Recall from Y4: N/A</p> <p>Teach for Y5: Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	observe (v)	Solar System
6	<p>Recall from Y4: N/A</p> <p>Teach for Y5: Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p>	compare (v)	Sun
7	<p>Recall from Y4: N/A</p> <p>Teach for Y5: Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.</p>	recognise (v)	Mercury
8	<p>Recall from Y4: N/A</p> <p>Teach for Y5: <i>Explore: the effects of air resistance by observing how objects (such as parachutes or sycamore seeds) fall; forces that make things begin to move, get faster or slow down; the effects of friction on movement and how it slows or stops moving objects*.</i></p>	measure (v)	Venus
9	<p>Recall from Y4: N/A</p> <p>Teach for Y5: Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	record (v)	Earth
10	Contingency Week		data (n)
		enquire (v)	Mars
		investigate (v)	Jupiter
		answer (v)	Saturn
		suggest (v)	Uranus
		report (v)	Neptune
		explain (v)	Spherical/Celestial body
		predict (v)	Rotation
		conclude (v)	orbit
		precision	forces
		causal relationships	gravity
		fair test	drag
		variables	air resistance
			water resistance
			fraction

Week	Y5 CYCLE THREE BIOLOGY: ANIMALS INCLUDING HUMANS			
	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)	
2	Recall from Y2: Notice that animals, including humans, have offspring which grow into adults. Teach for Y5: Describe the physical changes (life stages and milestones such as puberty) as humans develop from birth to old age, including baby, toddler, child, teenager (adolescence), adult and elderly.	Tier 2/3 biology puberty baby toddler teenager/adolescent adult elderly mass gestation embryo foetus		
3	Recall from Y4: N/A Teach for Y5: Consider how responsibilities change through different stages of human development.			
4	Recall from Y4: N/A Teach for Y5: Draw a timeline to indicate stages in the growth and development of humans.			
5 Quiz	Recall from Y4: N/A Teach for Y5: Find out and record (in chart, graph or table form) the length and mass of a baby as it grows.			
6	Contingency Week			
7	Recall from Y4: N/A Teach for Y5: Examine (and record) the rate of growth in humans from gestation to adulthood.			
8	Recall from Y4: N/A Teach for Y5: Research the gestation periods (from embryo to foetus) of other animals and comparing them with humans.			
9	Recall from Y4: N/A Teach for Y5: Describe the difference in gestation periods of different animals including humans.			
10 Quiz	Contingency Week			

Week	Y5 CYCLE FOUR BIOLOGY: LIVING THINGS AND THEIR ENVIRONMENT	
	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)
2	Recall from Y4: N/A Teach for Y5: Examine, in detail, the life cycle(s) of an amphibian, insect or bird.	
3	Recall from Y4: N/A Teach for Y5: Describe the differences in the life cycles of mammals, amphibians, insects and birds.	
4	Recall from Y4: N/A Teach for Y5: Describe the life process of reproduction in animals.	
5 Quiz	Recall from Y4: N/A Teach for Y5: Find out about different types of reproduction, including sexual and asexual reproduction in plants and sexual reproduction in animals.	
6	Contingency Week	
7	Recall from Y3: Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Teach for Y5: Describe, in contrast to animals, the life process and reproduction strategies in some plants.	
8	Recall from Y4: N/A Teach for Y5: Observe and record the structure/features of flowering plants, including the stamen and carpel, and examine their function.	
9	Recall from Y4: N/A Teach for Y5: Find out about the work of naturalists and animal behaviourists, for example, David Attenborough or Jane Goodall.	
10 Quiz	Contingency Week	

Tier 2/3 biology
 amphibian
 insect
 bird
 mammal
 reproduction
 sexual
 asexual

 stamen (pollen, anther, filament, sepal, receptacle)
 carpel (petal, stigma, style, ovule, ovary)
 naturalist/behaviourist