

## Y4 Science Bundle 2020-21

Year 4	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
Y4	<p><b>Pupils Should be Taught to:</b></p> <ul style="list-style-type: none"> <li>asking relevant questions and using different types of scientific enquiries to answer them</li> <li>setting up simple practical enquiries, comparative and fair tests</li> <li>making systematic and careful observations and, where appropriate, taking accurate</li> <li>measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> <li>recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</li> </ul>	<p><b>STATES OF MATTER</b></p> <ul style="list-style-type: none"> <li>Compare and group materials together, according to whether they are solids, liquids or gases.</li> <li>Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.</li> <li>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul>	<p><b>SOUND</b></p> <ul style="list-style-type: none"> <li>Identify how sounds are made, associating some of them with something vibrating.</li> <li>Recognise that vibrations from sounds travel through a medium to the ear.</li> <li>Find patterns between the pitch of a sound and features of the object that produced it.</li> <li>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>Recognise that sounds get fainter as the distance from the sound source increases.</li> </ul>	<p><b>ELECTRICITY</b></p> <ul style="list-style-type: none"> <li>Identify common appliances that run on electricity.</li> <li>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</li> <li>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</li> <li>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</li> <li>Recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul>	<p><b>ANIMALS INCLUDING HUMANS</b></p> <ul style="list-style-type: none"> <li>Construct and interpret a variety of food chains, identifying producers, predators and prey.</li> <li>Describe the simple functions of the basic parts of the digestive system in humans.</li> <li>Identify the different types of teeth in humans and their simple functions.</li> </ul>	<p><b>TO INVESTIGATE LIVING THINGS:</b></p> <ul style="list-style-type: none"> <li>Recognise that living things can be grouped in a variety of ways.</li> <li>Explore and use classification keys.</li> <li>Recognise that environments can change and that this can sometimes pose dangers to specific habitats.</li> </ul>

	<p>using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <ul style="list-style-type: none"><li>• identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings.</li></ul>					
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Y4 CYCLE ONE CHEMISTRY: STATES OF MATTER			
Week	Lesson Content	Vocabulary	
1	<b>Vocabulary</b>	<b>Working Scientifically:</b>	<b>Tier 2/3 chemistry</b>
2	<p><b>Recall from Y3:</b> Pupils should explore a variety of everyday materials and develop simple descriptions of the states of matter.</p> <p><b>Teach for Y4:</b> Pupils should explore a variety of everyday materials and develop simple descriptions of the states of matter (solids hold their shape; liquids form a pool not a pile; gases escape from an unsealed container) *</p> <p>*Non-Statutory</p>	test (v)	states of matter
3	<p><b>Recall from Y3:</b> <b>Compare</b> (classify) and group materials together, according to whether they are solids, liquids or gases.</p> <p><b>Teach for Y4:</b> Compare and group materials together, according to whether they are solids, liquids or gases.</p>	identify (v)	substance
4	<p><b>Recall from Y3:</b> N/A</p> <p><b>Teach for Y4:</b> Observe that some materials change state when they are heated or cooled and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.</p>	classify (v)	solution
5 Quiz	<p><b>Recall from Y3:</b> N/A</p> <p><b>Teach for Y4:</b> Group and classify (investigate) a variety of different materials, exploring the effect of temperature on substances such as chocolate, butter, cream.</p> <p>*Non-Statutory</p>	observe (v)	material
6	<b>Contingency Week</b>	compare (v)	solid
7	<p><b>Recall from Y3:</b> N/A</p> <p><b>Teach for Y4:</b> Research the temperature at which materials change state, for example, when iron melts or when oxygen condenses into a liquid.</p> <p>*Non-Statutory</p>	measure (v)	liquid
8	<p><b>Recall from Y3:</b> N/A</p> <p><b>Teach for Y4:</b> Pupils should <b>observe</b> water as a solid, a liquid and a gas and should note the changes to water when it is heated or cooled*.</p> <p>*Non-Statutory</p>	record (v)	gas
9	<p><b>Recall from Y3:</b> N/A</p> <p><b>Teach for Y4:</b> <b>Identify</b> the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p>Investigate the effect of temperature on washing drying or ice melting*.</p> <p>*Non-Statutory</p>	data (n)	particles
10 Quiz	<b>Contingency Week</b>	enquire (v)	temperature
		investigate (v)	Celsius (°C)
		answer (v)	oxygen
		suggest (v)	evaporation
		recognise (v)	condensation
		report (v)	precipitation
		explain (v)	
		predict (v)	
		conclude (v)	

Week	Y4 CYCLE TWO PHYSICS A: SOUND & PHYSICS B: ELECTRICITY	
	Lesson Content	Vocabulary
1	<b>Vocabulary</b>	<b>Working Scientifically:</b> test (v) identify (v) classify (v) observe (v) compare (v) measure (v) record (v) data (n) enquire (v) investigate (v) answer (v) suggest (v) recognise (v) report (v) explain (v) predict (v) conclude (v)
2	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear.	
3	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Find patterns between the pitch of a sound and features of the object that produced it.	
4	<b>Contingency Week /Christmas</b>	
5 Quiz	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.	
6	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Identify common appliances that run on electricity. Identify precautions for working safely with electricity.	
7	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Draw the circuit as a pictorial representation.	
8	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Recognise some common conductors and insulators, and associate metals with being good conductors.	
9	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.	
10 Quiz	<b>Contingency Week</b>	

**Tier 2/3 physics**  
 sound  
 vibrate  
 medium  
 pitch  
 volume  
 fainter  
 electricity  
 mains  
 appliances  
 precautions  
 appliances  
 circuit  
 cells  
 wires  
 switch  
 conductor  
 insulator

Y4 CYCLE THREE BIOLOGY: ANIMALS INCLUDING HUMANS			
Week	Lesson Content	Vocabulary	
1	<b>Vocabulary</b>	<b>Working Scientifically:</b> test (v) identify (v) classify (v) observe (v) gather (v) record (v) data (n) ask (v) answer (v) suggest (v)	<b>Tier 2/3 biology</b> producer predator prey molar canine incisor grinding digestive system oesophagus stomach liver small intestine large intestine anus
2	<b>Recall from Y3:</b> Identify that animals, including humans, cannot make their own food so get nutrition from what they eat. Investigate and discuss the importance, for humans, of a balanced diet. <b>Teach for Y4:</b> Interpret food chains, identifying producers, predators and prey.		
3	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Construct a variety of food chains, identifying producers, predators and prey.		
4	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Identify the different types of teeth in humans and compare with the teeth of different types of common animals (including carnivores, herbivores and omnivores).		
5 Quiz	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Describe different types of teeth in humans and their simple functions: cutting and biting, ripping and tearing, grinding		
6	<b>Contingency Week</b>		
7	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Identify the basic parts of the digestive system in humans, including oesophagus, stomach, liver, (gall bladder, and pancreas,) small intestine, large intestine and anus.		
8	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Describe the simple functions of the basic parts of the digestive system in humans.		
9	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Match the organs of the human digestive system to the correct function. Construct and label a basic model of the human digestive system.		
10 Quiz	<b>Contingency Week</b>		

Week	Y4 CYCLE FOUR BIOLOGY: TO INVESTIGATE LIVING THINGS
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	Lesson Content	Vocabulary	
1	<b>Vocabulary</b>	<b>Working Scientifically:</b>	<b>Tier 2/3</b>
2	<b>Recall from Y2:</b> Explore and compare the differences between things that are living, that are dead and that have never been alive. <b>Teach for Y4:</b> Recognise that living things can be grouped in a variety of ways. Classify a variety of organisms as vertebrate or invertebrate. Examine the characteristics of common invertebrates including insects, spiders and crustaceans.	test (v) identify (v) classify (v) observe (v) gather (v) record (v)	<b>biology</b> organism vertebrate invertebrate crustacean
3	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> 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.	data (n) ask (v) answer (v)	mammal mammal reptile fish
4	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Explore and use classification keys to identify the name of a specific organism.	suggest (v)	bird amphibian
5 Quiz	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Construct a classification key.	recognise (v)	environment habit micro habitat
6	<b>Contingency Week</b>		
7	<b>Recall from Y2:</b> Identify that most living things live in habitats to which they are suited. <b>Teach for Y4:</b> Introduce the concept of environment and the range of habitats and micro habits that can exist within an environment.		
8	<b>Recall from Y3:</b> Describe how different habitats provide for the basic needs (conditions). <b>Teach for Y4:</b> Explore that organisms can also be classified according to their habitat.		
9	<b>Recall from Y3:</b> N/A <b>Teach for Y4:</b> Recognise that environments can change and that this can sometimes pose dangers to specific habitats.		
10 Quiz	<b>Contingency Week</b>		

