



Year 3 LTP

BIOLOGY	CHEMISTRY	PHYSICS
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Y2 objectives

These must be taught discreetly at the start of the year, before you move on to your Y3 LTP, as these objectives do to fit into your current year group topics.

***Science will be taught for 1 hour per week when we return in September until further notice. Therefore, it has been necessary to change the model of the spiral curriculum.**

Living things and their Habitat unit- curriculum statement(s):

- a) identify and name a variety of plants and animals in their habitats, including microhabitats (2)
- b) describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food (2)

Everyday Materials unit- curriculum statement:

- a) find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching (2)

Autumn 1 Science (weeks 1-6) will be dedicated to teaching these Y2 objectives over weekly 1 hour lessons. Y3 will not start their year group spiral curriculum until Autumn 2 and still have 2 full rotations of the spiral curriculum rather than 3, please factor this in when teaching the objectives, you will only return to them once.

<u>Autumn Term</u>	Weeks 1-6 (Autumn 1) will now be dedicated to the discreet Y2 lost learning objectives above.	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12
Science unit		Animals, including humans			Plants		
Scientist(s)		Galen 129 – c.216			Gregor Mendel		

		Began his practice as a physician to gladiators and established a link between diet and health.	A botanist that founded the science of genetics; identified many of the rules of heredity; identified recessive and dominant traits, and that traits are passed from parents to offspring in a mathematically predictable way.
Scientific knowledge		<ul style="list-style-type: none"> • Y2 objective: describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat AIH 1(A,B,C) • identify that humans and some other animals have skeletons and muscles for support, protection and movement. AIH 1(A,B) 	<ul style="list-style-type: none"> • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers P1 • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant P2 • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal P4

Spring Term	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12
Science unit	Light			Rocks			Forces and magnets				Animals, including humans	
Scientist(s)	Thomas Edison Inventor Thomas Edison created such great innovations as the practical incandescent electric light bulb and the phonograph. A savvy businessman, he held more than 1,000 patents for his inventions.			Mary Anning Ancient animals, fossils, and paleontology: discovered the first complete specimen of a plesiosaur; deduced the diets of dinosaurs.			William Gilbert First to investigate the phenomenon of magnetism systematically using scientific methods. He also discovered that the Earth is itself a weak magnet.				Galen 129 – c.216 Began his practice as a physician to gladiators and established a link between diet and health.	
Scientific knowledge	<ul style="list-style-type: none"> • recognise that they need light in order to see things and that dark is the absence of light 			<ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their appearance 			<ul style="list-style-type: none"> • compare how things move on different surfaces FM1 				<ul style="list-style-type: none"> • identify that animals, including humans, need the right types and 	

	<p>L1</p> <ul style="list-style-type: none"> notice that light is reflected from surfaces recognise that light from the sun can be dangerous and that there are ways to protect their eyes recognise that shadows are formed when the light from a light source is blocked by a solid object. L4/5 find patterns in the way that the size of shadows change L4/5 	<p>and simple physical properties R1 (a, b)</p> <ul style="list-style-type: none"> describe in simple terms how fossils are formed when things that have lived are trapped within rock recognise that soils are made from rocks and organic matter R3 	<ul style="list-style-type: none"> notice that some forces need contact between 2 objects, but magnetic forces can act at a distance FM2 observe how magnets attract or repel each other and attract some materials and not others FM3 compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials describe magnets as having 2 poles predict whether 2 magnets will attract or repel each other, depending on which poles are facing 	<p>amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat AIH 1(A,B,C)</p> <ul style="list-style-type: none"> identify that humans and some other animals have skeletons and muscles for support, protection and movement. AIH 1(A,B)
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Summer Term	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12
Science unit	Plants			Light			Rocks		Forces and magnets			
Scientist(s)	<p>Gregor Mendel A botanist that founded the science of genetics; identified many of the rules of heredity; identified recessive and dominant traits, and that traits are passed from parents to offspring in a mathematically predictable way.</p>			<p>Thomas Edison Inventor Thomas Edison created such great innovations as the practical incandescent electric light bulb and the phonograph. A savvy businessman, he held more than 1,000 patents for his inventions.</p>			<p>Mary Anning Ancient animals, fossils, and paleontology: discovered the first complete specimen of a plesiosaur; deduced the diets of dinosaurs.</p>		<p>William Gilbert First to investigate the phenomenon of magnetism systematically using scientific methods. He also discovered that the Earth is itself a weak magnet.</p>			
Scientific knowledge	<ul style="list-style-type: none"> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves 			<ul style="list-style-type: none"> recognise that they need light in order to see things and that dark is the absence of light 			<ul style="list-style-type: none"> compare and group together different kinds of rocks on 		<ul style="list-style-type: none"> compare how things move on different surfaces FM1 			

	<p>and flowers P1</p> <ul style="list-style-type: none"> explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant <p>P2</p> <ul style="list-style-type: none"> investigate the way in which water is transported within plants <ul style="list-style-type: none"> explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal <p>P4</p>	<p>L1</p> <ul style="list-style-type: none"> notice that light is reflected from surfaces recognise that light from the sun can be dangerous and that there are ways to protect their eyes recognise that shadows are formed when the light from a light source is blocked by a solid object. <p>L4/5</p> <ul style="list-style-type: none"> find patterns in the way that the size of shadows change <p>L4/5</p>	<p>the basis of their appearance and simple physical properties</p> <p>R1 (a, b)</p> <ul style="list-style-type: none"> describe in simple terms how fossils are formed when things that have lived are trapped within rock recognise that soils are made from rocks and organic matter <p>R3</p>	<ul style="list-style-type: none"> notice that some forces need contact between 2 objects, but magnetic forces can act at a distance <p>FM2</p> <ul style="list-style-type: none"> observe how magnets attract or repel each other and attract some materials and not others <p>FM3</p> <ul style="list-style-type: none"> compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials describe magnets as having 2 poles predict whether 2 magnets will attract or repel each other, depending on which poles are facing
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<p>Working scientifically skills</p>	<p>During Year 3, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of all units in our spiral curriculum:</p> <ol style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings.
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<p>Investigation Opportunities: which Working Scientifically skills can they show?</p> <p>Taken from Hamilton Trust</p>	<p>Animals inc. Humans</p> <p>AIH 1) identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p>a) Use PPT for AIH1 'Understanding a balanced diet' in documents to become personal dieticians for clients! WS Skills 4,5</p> <p>b) Use PPT for AIH1 'Eatwell Plate' in documents to become personal dieticians for clients! WS Skills 4,6, 7</p> <p>c) Use PPT for AIH1 'Client Info' in documents to apply knowledge to create bespoke diets for clients WS Skills 4,6,7,9</p> <p>identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>a) Use PPT for AIH2 'Muscle Use investigation' in documents WS Skills 4, 5, 6, 7, 9</p> <p>b) Use PPT for AIH2 'lung capacity investigation' in documents WS Skills 2, 3, 7</p> <p>Plants</p> <p>P1 identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>a) See P1 'Drawing Plants' investigation to look at different parts in more detail WS SKILLS 3,5</p> <p>P2 explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant</p> <p>a) Help an alien grown plants on a distant planet! https://www.youtube.com/watch?v=9bMzrvRbqms – Zinnia's first message. http://www.bbc.co.uk/education/clips/zv2qxnbn - A short compilation clip of plants growing that may give chn ideas on what they need to be strong and healthy</p> <p>See in documents 'alien growing plants in space' resources. WS Skills ALL – this will be done over a few weeks- keep checking in on the investigation. See Hamilton Trust website for full investigation.</p> <p>P3 investigate the way in which water is transported within plants</p> <p>P4 explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p> <p>a) See P4 in documents 'sequencing and pollination' to discover flowers' role WS SKILLS 6,9</p> <p>Light</p> <p>L1 recognise that they need light in order to see things and that dark is the absence of light</p> <p>Cardboard box investigation, see L1 PPT in documents WS SKILLS 1,3,7</p> <p>L2 notice that light is reflected from surfaces</p> <p>L3 recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>L4 recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>L5 find patterns in the way that the size of shadows change.</p> <p>For L4 and L5, using opaque, translucent and transparent materials, children investigate what happens to shadows when the light source moves further away or closer to an object (measure size against a background). Need to understand that objects block light from moving in a STRAIGHT LINE, it doesn't move around it. WS SKILLS 2,3,4,5,6,7</p>
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	<p>Rocks</p> <p>R1 compare and group together different kinds of rocks on the basis of their appearance and simple physical properties a) See supporting documents- Rock detectives lesson for ideas on observational drawing and characteristics WS SKILLS 1,3,5 b) See Types of Rock investigation to test hardness, permeability, acidity etc of certain rocks WS SKILLS 2,3,7</p> <p>R2 describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>R3 recognise that soils are made from rocks and organic matter Observe soil from yard with magnifying glass and list/classify identifiable parts WS SKILLS 3,4,8,9</p> <p>Forces and Magnets</p> <p>FM1 compare how things move on different surfaces See FM1 ‘investigation on different surfaces’ as a starting point, children plan their own variables and report findings WS SKILLS ALL</p> <p>FM2 notice that some forces need contact between 2 objects, but magnetic forces can act at a distance See FM2 ‘Push and pull forces and magnets’ investigation for ideas into setting up a suitable experiment WS SKILLS 1,2,7</p> <p>FM3 observe how magnets attract or repel each other and attract some materials and not others Children choose their own objects from the classroom to test and create their own experiment, record, and summarise findings.WS SKILLS 1,2,3,4,5,6,7</p> <p>FM4 compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <p>FM5 describe magnets as having 2 poles</p> <p>FM6 predict whether 2 magnets will attract or repel each other, depending on which poles are facing</p>				
Scientific vocabulary	Movement, Muscles, Bones, Skull, Nutrition, Skeletons	Air, Light, Water, Nutrients, Soil, Reproduction, Transportation, Dispersal, Pollination, Flower	Light, Shadows, Mirror, Reflective, Dark, Reflection	Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent	Magnetic, Force, Contact, Attract, Repel, Friction, Poles, Push, Pull

Spiral rationale:

6 weeks discreet catch-up

Animals including humans= 5 weeks over the year (1 Y2 and 2 Y3 objectives = 3 objectives)

Plants= 6 weeks over the year (4 objectives)

Light = 6 weeks over the year (5 objectives)

Rocks = 5 weeks over the year (3 objectives)

Forces and Magnets = 8 weeks over the year (6 objectives)