Year 1 Science **Spring Term 2021**

<table>
<tr><td></td><td>Skills and Knowledge</td><td>Links with prior and future learning</td></tr>
<tr><td rowspan="6">Working Scientifically</td><td>Ask simple questions and recognise that they can be answered in different ways</td><td rowspan="15">Prior learning linked .
Autumn and winter study during autumn term they children began a study of the seasons.
<u>Future Learning</u>
This unit will lead into
Use of every day materials in Y2
identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses
compare how things move on different surfaces.
find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</td></tr>
<tr><td>Observe closely, use simple equipment</td></tr>
<tr><td>Perform simple tests</td></tr>
<tr><td>Identify and classify</td></tr>
<tr><td>Use their observations and ideas to suggest answers to questions</td></tr>
<tr><td>Gather and record data to help in answering questions</td></tr>
<tr><td rowspan="4">Materials</td><td>distinguish between an object and the material from which it is made</td></tr>
<tr><td>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</td></tr>
<tr><td>describe the simple physical properties of a variety of everyday materials</td></tr>
<tr><td>compare and group together a variety of everyday materials on the basis of their simple physical properties</td></tr>
<tr><td rowspan="3">Animals Classification (Year 1 unit but Yr 2 catch up)</td><td>identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</td></tr>
<tr><td>identify and name a variety of common animals that are carnivores, herbivores and omnivores</td></tr>
<tr><td>describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</td></tr>
<tr><td rowspan="2">Seasonal Changes (Ongoing throughout the year)</td><td>Observe changes across the 4 seasons</td></tr>
<tr><td>Observe and describe weather associated with the seasons and how day length varies</td></tr>
<tr><td>Vocabulary</td><td colspan="2">Animals: Common animals fish, amphibians, reptiles, birds, mammals, Pets, omnivores, carnivores, herbivores
Materials: Material: wood, plastic, glass, metal, water, rock, brick, paper, fabric, paper, elastic, foil
Properties: hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/not waterproof, absorbent/not absorbent</td></tr>
</table>

	Seasons: Summer ,winter ,autumn ,spring ,day ,daytime, wind, rain, snow, hail, sleet, fog, sun, hot, warn, cold, season. **Scientists** to study to Charles Macintosh – waterproof fabric, john Dunlop rubber John McAdam Macadmisation , Charles H turner discovered that insects can hear.

Year 2 Science **Spring Term 2021**

	Skills and Knowledge	Links with prior and future learning
Working Scientifically	Ask simple questions and recognise that they can be answered in different ways	**Prior learning** This leads on from
	Observe closely, use simple equipment	
	Perform simple tests	
	Identify and classify	
	Use their observations and ideas to suggest answers to questions	
	Gather and record data to help in answering questions	
Materials	identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses	
	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	
Animals Classification (Year 1 unit but Yr 2 catch up)	identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	
	identify and name a variety of common animals that are carnivores, herbivores and omnivores	
	describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)	

This unit leads on from Materials in Y1
distinguish between an object and the material from which it is made
identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
describe the simple physical properties of a variety of everyday materials
compare and group together a variety of everyday materials on the basis of their simple physical properties

Future learning:
This unit will lead into

Forces and Magnets Y3/3
compare how things move on different surfaces
notice that some forces need contact between 2 objects, but magnetic forces can act at a distance
observe how magnets attract or repel each other and attract some materials and not others
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

<table>
<tr><td rowspan="2">Seasonal Changes
(Ongoing throughout the year)</td><td>Observe changes across the 4 seasons</td><td rowspan="2">Y3 Rocks They will compare and groups rocks on the basis for their appearance and physical properties
Following on from autumn and winter study during A2.
Weather watch – rainfall, wind direction and temperature studies.
This unit will support the understanding of the water cycle in Y3/4 states of matter units.</td></tr>
<tr><td>Observe and describe weather associated with the seasons and how day length varies</td></tr>
<tr><td>Vocabulary

Famous scientist to study</td><td colspan="2">Animals: Common animals fish, amphibians, reptiles, birds, mammals, Pets, omnivores, carnivores, herbivores
Materials: Material: wood, plastic, glass, metal, water, rock, brick, paper, fabric, paper, elastic, foil Properties: hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/not waterproof, absorbent/not absorbent squashing bending twisting stretching
Seasons: Summer ,winter ,autumn ,spring ,day ,daytime, wind, rain, snow, hail, sleet, fog, sun, hot, warn, cold, season.
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Year 3 and Year 4 Science **Rocks and Forces- Magnets** **Spring Term 2021**

	Skills and Knowledge	Links with prior and future learning
Working Scientifically	Ask relevant questions and use different types of scientific enquiries to answer them	**Prior Learning:** Although the first time the children have studied rocks, this work leads on from work previously done on materials in KS1. This will be the first time the children have explored forces. **Future learning** **Magnets will support** **Year 5** Forces gravity acting between Earth and falling objects Rocks will support Y6 Evolution Where they will learn fossils provide evidence of living things that inhabited the Earth millions of years ago,
	Set up simple practical enquiries, comparative and fair tests	
	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, use a range of equipment, including thermometers and data loggers	
	Gather, record, classify and present data in a variety of ways to help in answering questions	
	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	
	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	
	Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	
	Identify differences, similarities or changes related to simple scientific ideas and processes	
	Use straightforward scientific evidence to answer questions or to support their findings.	
Rocks	compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	**Famous scientists:**  Mary Anning and William Smith  Dr. Lisa White is a micropaleontologist (a scientist who studies fossils at a microscopic level).
	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	
Forces – Magnets	compare how things move on different surfaces	
	notice that some forces need contact between 2 objects, but magnetic forces can act at a distance	
	observe how magnets attract or repel each other and attract some materials and not others	
	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	https://www.blackenterprise.com/meet-dr-lisa-white-paleontologist/
Vocabulary	Rocks: Igneous rock, sedimentary , metamorphic rock ,magma lava sediment permeable impermeable, fossilisation, palaeontology, erosion Forces: Magnet. Magnetic, magnetic field, poles, repel, attract, force, friction surface	

Year 5 and Year 6 Science **Forces and Electricity** **Spring Term 2021**

<table>
<tr><td></td><td>Skills and Knowledge</td><td>Links with prior and future learning</td></tr>
<tr><td rowspan="6">Working Scientifically</td><td>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</td><td rowspan="13">This unit builds on from initial work in KS1.
<u>Prior learning</u>
Forces builds on work completed in Y3/4<table><tr><td>Compare how things move on different surfaces</td></tr><tr><td>Describe magnets as having 2 poles</td></tr><tr><td>Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</td></tr></table>
Electricity builds on work completed in Yr4 where the children<table><tr><td>Identify appliances</td></tr><tr><td>Construct simple circuits</td></tr><tr><td>Recognise that a switch opens and closes a</td></tr><tr><td>Recognise common conductors and insulators and associate metals with being good conductors.</td></tr></table>Famous Scientists
Nikola Tesla – American with Serbian origins invented alternating current
Lewis Latimar - Black American</td></tr>
<tr><td>Take measurements, using a range of scientific equipment, with increasing accuracy and precision</td></tr>
<tr><td>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs</td></tr>
<tr><td>Use test results to make predictions to set up further comparative and fair tests</td></tr>
<tr><td>Report and present findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations</td></tr>
<tr><td>Identify scientific evidence that has been used to support or refute ideas or arguments.</td></tr>
<tr><td rowspan="3">Electricity</td><td>associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</td></tr>
<tr><td>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</td></tr>
<tr><td>use recognised symbols when representing a simple circuit in a diagram</td></tr>
<tr><td rowspan="2">Forces</td><td>explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</td></tr>
<tr><td>identify the effects of air resistance, water resistance and friction, that act between moving surfaces</td></tr>
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	recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	invented carbon filaments in lightbulbs Isaac Newton developed the theory of gravity
Vocabulary	**Electricity:** circuit, symbol,. Cell/ battery, current, amps, resistance electrons. **Forces:** gravity, earth's gravitational pull, weight, mass, friction, air resistance, water resistance, streamlined, mechanisms	See comprehension sheets in Spring resources term file