



CURRICULUM PROGRESSION GRID: SCIENCE
Lower Key Stage 2- Chemistry and Physics units

States of matter	Rocks	Forces and magnets	Light	Sound	Electricity
<p>NC Link: Pupils should be taught to:</p> <ul style="list-style-type: none"> - Compare and group materials together, according to whether they are solids, liquids or gases - Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) - Identify the part played by evaporation and condensation in the water cycle and associate the rate of 	<p>NC Link: Pupils should be taught to:</p> <ul style="list-style-type: none"> - Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties - 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>NC Link: Pupils should be taught to:</p> <ul style="list-style-type: none"> - Compare how things move on different surfaces - Notice that some forces need contact between two 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 	<p>NC Link: Pupils should be taught to:</p> <ul style="list-style-type: none"> - Recognise that they need light in order to see things and that dark is the absence of light - 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 an opaque object - Find patterns in the way that the size of shadows change. 	<p>NC Link: Pupils should be taught to:</p> <ul style="list-style-type: none"> - Recognise that vibrations from sounds travel through a medium to the ear - Find patterns between the pitch of a sound and features of the object that produced it - 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 	<p>NC Link: Pupils should be taught to:</p> <ul style="list-style-type: none"> - Identify common appliances that run on electricity - Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers - 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

evaporation with temperature.		to a magnet, and identify some magnetic materials - Describe magnets as having two poles - Predict whether two magnets will attract or repel each other, depending on which poles are facing.	identify how sounds are made, associating some of them with something vibrating		lights in a simple series circuit - Recognise some common conductors and insulators, and associate metals with being good conductors
Theme links: 'Green Fingers' Cycle A Sum 1 'Magic' Cycle B Aut 2	Theme links: 'Romans/ Invaders' Cycle B Aut 1	Theme links: 'Iron Man' Cycle A Aut 1	Theme links: 'Conflict' Cycle A Sum 2	Theme links: 'Spain' Cycle B Spr 2	Theme links: 'Enterprise' Cycle B Sum 1
Builds On: KS1: - Pupils can name everyday materials e.g. glass, brick, wood etc. - They can identify how a variety of objects are made and the material it is made from. -Pupils can identify materials that are natural and those that are man-made. - They can discuss the variety of uses the objects have.	Builds On: KS1: Not taught in previous Key Stage	Builds On: KS1: Not taught in previous Key Stage	Builds On: KS1: Not taught in previous Key Stage	Builds On: KS1: Not taught in previous Key Stage	Builds On: KS1: Not taught in previous Key Stage

<ul style="list-style-type: none"> - They can describe the physical features of the material using their senses. - Pupils can discuss the materials suitability and why it has been chosen for a specific job e.g. waterproof for being a raincoat. - Pupils will be able to group and compare materials based on their physical properties. - Pupils can find out how the material can change shape through twisting, bending, squashing. 					
Intent (overarching success criteria) <ul style="list-style-type: none"> -Pupils can group solids, liquids and gases. -They can describe how changes of state can happen through heating and cooling. -Pupils can measure or research the 	Intent (overarching success criteria) <ul style="list-style-type: none"> -Pupils can compare and group different kinds of rocks using their appearance and physical features. - They can describe and explain how different rocks are useful to us. 	Intent (overarching success criteria) <ul style="list-style-type: none"> -Pupils can compare how things move on different surfaces. -Pupils can understand that some forces need contact but magnetic forces 	Intent (overarching success criteria) <ul style="list-style-type: none"> -Pupils can understand that light is needed to see objects and that some objects reflect light. -They understand the dangers of the sun on our eyes and how we must protect our eyes from UV light. 	Intent (overarching success criteria) <ul style="list-style-type: none"> -Pupils understand that sound is caused through vibrations. -Pupils recognise how the vibrations travel from the sources to the middle ear. -Pupils can compare sources of sounds 	Intent (overarching success criteria) <ul style="list-style-type: none"> -Pupils will be able to name common appliances that require electricity. -They can set up simple circuits and name the basic parts in a series circuit such as cells, wires, bulbs, switches and buzzers.

<p>temperature at which different materials change state.</p> <ul style="list-style-type: none"> -Pupils can use measurements to explain changes to the state of water. -Pupils can explain evaporation and condensation and its importance in the water cycle. -Pupils can relate this to puddles in the playground. 	<ul style="list-style-type: none"> -They can describe and explain the differences between sedimentary and igneous rocks, considering the way they are formed. -They can understand and describe in simple terms how fossils are formed. - Pupils can explain how a variety of soils are made. - They can compare different soils. 	<p>can act at a distance.</p> <ul style="list-style-type: none"> -They can describe magnets as having two poles. -Pupils can predict whether two magnets will attract or repel each other depending on which poles are facing. -They can group everyday objects based on whether they are magnetic or not. -Pupils can identify some magnetic materials. 	<ul style="list-style-type: none"> -Pupils can explain how shadows are formed. -Pupils can explain how the size of the shadows can change. 	<p>and explain how the sounds differ.</p> <ul style="list-style-type: none"> -Pupils can explain how to change the volume of a sound. -Pupils can find patterns between the volume of the sound and the strength of the vibrations that produced it. -Pupils recognise that sounds get fainter as the distance from the sound sources increases. - Pupils can find patterns in the pitch of sounds and features of the object that made it. 	<ul style="list-style-type: none"> -Pupils can understand what happens when a circuit is incomplete. -They can include switches into a circuit and can describe how it works. - They can name a variety of conductors and insulators and describe how they work.
<p><u>Extended Writing:</u> To write an explanation text about the water cycle</p>	<p><u>Extended Writing:</u> To write a poem or a rap about how soil is formed.</p>	<p><u>Extended Writing:</u> To write a superhero story incorporating</p>	<p><u>Extended Writing:</u> Write a persuasive article about the need to wear sun</p>	<p><u>Extended Writing:</u> Write a leaflet on how we hear for a museum or music venue.</p>	<p><u>Extended Writing:</u> Write a page each for a class electric magazine describing how to complete</p>

To advertise a new product to keep a drink/food cool/warm.	Explanation text about how fossils are formed.	magnets and their properties.	cream or sunglasses.		each of the objectives. Write a story 'A day in the life of an electron.'
Vocabulary Solid Liquid Gas Evaporation Condensation Particles Temperature Freezing Heating Water cycle	Vocabulary Fossils Soils Sandstone Granite Marble Pumice Crystals Absorbent Sedimentary Igneous	Vocabulary Magnetic Force Contact Attract Repel North South Friction Poles Push Pull	Vocabulary Light Shadows Mirror Reflective Dark Reflection	Vocabulary Volume Vibration Wave Pitch Tone Speaker Middle ear	Vocabulary Cells Wires Bulbs Switches Buzzers Battery Circuit Series Conductors Insulators
<u>Scientists</u> Anders Celsius (Celsius Temperature Scale) Daniel Fahrenheit (Fahrenheit temperature scale/ invention of the thermometer)	<u>Scientists</u> Mary Anning (Discovery of Fossils) Sanjeev Gupta (Geologist) Wills Smiths (Studied rock layers)	<u>Scientists</u> William Gilbert (Theories on Magnetism) Andre Marie Ampere (Founder of Electro-Magnetism)	<u>Scientists</u> James Clerk Maxwell (Visible and invisible waves of light)	<u>Scientists</u> Aristotle (Sound waves) Galileo Galilei (Frequency and Pitch of sound waves) Alexander Graham Bell (Invented the telephone)	<u>Scientists</u> Thomas Eddison (First working Lightbulb) Joseph Swan (Incandescent Light Bulb) Saiful Islam (lithium ion batteries in mobile phones,

					tablets, laptops to make greener environment)
<u>Reading books</u> - Charlie and the Chocolate Factory- Roald Dahl (Changing states) - Once Upon a Raindrop:The Story of Water-James Carter - Sticks –Diane Alber	<u>Reading books</u> -The Pebble in my pocket (Meredith Hooper) - The Rock Factory: A Story About Rocks and Stones - A Rock Is Lively - The Street Beneath My Feet (Charlotter Guillan) - This Little Pebble - You Wouldn't Want To Live Without Soil! - Stone Girl, Bone Girl (Laurence Anholt)	<u>Reading books</u> - Iron Man (Ted Hughes)	<u>Reading books</u> - The Firework Maker's Daughter (Philip Pullman) - The Owl who was afraid of the dark (Jill Tomlinson) - The Dark (Lemony Snicket)	<u>Reading books</u> - Horrid Henry Rocks (Sound)	<u>Reading books</u> - Until I met Dudley- Roger McGough - Oscar and the Bird: A book about Electricity –Geoff Waring