Layers in Science

The skills are from the Chris Quigley essentials curriculum (yellow).

The themes (blue) are the areas of learning which are assessed and monitored throughout a pupil's historical learning (from Year 1 to Year 6).

Reception

<table>
<tr><th colspan="3">Topics / Units</th></tr>
<tr><th>Autumn</th><th>Spring</th><th>Summer</th></tr>
<tr><td>To name and use our five senses

Understand Seasonal Changes in Autumn and changes from Autumn to Winter

To name some common materials and notice some similarities and differences</td><td>Label main parts of plants and trees

Plant a sunflower seed and observe its growth and talk about its life cycle

Understand Seasonal Changes from Winter to Spring</td><td>Name some common animals and find out where they live

Observe changes in the season including visits to the pond and local wood</td></tr>
<tr><th colspan="2">EYFS 2024 Handbook: Early Learning Goals</th><th>Chris Quigley Big Ideas</th></tr>
<tr><td colspan="2">Explore the natural world around them, making observations and drawing pictures of animals and plants

Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class

Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter</td><td>• Scientific enquiry children learning the scientific approach
• Biology children learning about plant and animals
• Physics children learning about the features of the world
• Chemistry Children learning about materials and their properties.</td></tr>
</table>

Year 1 and 2

Topics / Units			
Year	**Autumn**	**Spring**	**Summer**
A **Seasonal changes** (NC: Year 1: Observe changes across the 4 seasons. Observe and describe weather associated with the seasons and how day length varies.) *Covered throughout the year.*	**Animals, including humans** (NC: Year 2: notice that animals including humans have offspring that grow into adults. Find out about and describe the basic needs of animals, inc. Humans for survival Describe the importance for humans of exercise, eating the right amounts of different food and hygiene)	**Uses of everyday materials** (NC: Year 2: Identify and compare the suitability of a variety of everyday materials, for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.)	**Plants** (NC: Year 1: Identify and name a variety of common, wild and garden plants including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, inc. trees.) **Plants** (NC: Year 2: Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.)
B **Seasonal changes** (NC: Year 1: Observe changes across the 4 seasons. Observe and describe weather associated with the seasons and how day length varies.)	**Uses of everyday materials** (NC: Year 1: distinguish between an object and the material from which it is made. Identify, name, describe and group a variety of everyday materials. Describe the simple physical properties of everyday materials. Compare and group together a variety of everyday materials, on the basic of their simple physical properties.)	**Animals, including humans** (NC: Year 1: 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. Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense).	**Living things and their habitats** (NC: Year 2: Explore and compare the differences between things that are living, dead and things that have never been alive. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Identify and name a variety of plants and animals in their habitats including microhabitats. Describe how animals obtain their food from plants and animals using the idea of a simple food

Covered throughout the year.			chain, and identify and name different sources of food.)

Work scientifically	Biology	Chemistry	Physics
• Ask simple questions. • Observe closely, using simple equipment. • Perform simple tests. • Identify and classify. • Use observations and ideas to suggest answers to questions. • Gather and record data to help in answering questions.	**Understand plants** • Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen. • Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers. • Observe and describe how seeds and bulbs grow into mature plants. • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. **Understand animals and humans** • Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates. • 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 (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).	**Investigate materials** • 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. • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.	**Understand movement, forces and magnets** • *Notice and describe how things move, using simple comparisons such as faster and slower.* • *Compare how different things move***.** **Understand the Earth's movement in space** • *Observe the apparent movement of the Sun during the day.* • Observe changes across the four seasons. • Observe and describe weather associated with the seasons and how day length varies. **Investigate light and seeing** • *Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes.* **Investigate sound and hearing** • *Observe and name a variety of sources of sound, noticing that we hear with our ears.* **Understand electrical circuits**

	• Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • Notice that animals, including humans, have offspring which grow into adults. • Investigate and describe the basic needs of animals, including humans, for survival (water, food and air). • Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene. **Investigate living things** • Explore and compare the differences between things that are living, that are dead and that have never been alive. • Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other. • Identify and name a variety of plants and animals in their habitats, including micro-habitats. • 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.		• *Identify common appliances that run on electricity.* • *Construct a simple series electrical circuit.* Items in italics are not statutory in the English National Curriculum.

	Understand evolution and inheritance • *Identify how humans resemble their parents in many features.*		

Comparative & fair testing	Identifying, classifying & grouping	Pattern seeking	Observing overtime	Research using secondary sources

National Curriculum purpose:

Provide the foundations for understanding the world, through biology, chemistry and physics. Teach essential aspects of the knowledge, methods, processes and uses of science. Build up a body of key foundational knowledge and concepts, encourage pupils to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. Encourage pupils to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes

Chris Quigley Breadth of study:

Biology:	Chemistry:	Physics:
Plants • Identify, classify and describe their basic structure. • Observe and describe growth and conditions for growth. Habitats • Look at the suitability of environments and at food chains. Animals and humans • Identify, classify and observe. • Look at growth, basic needs, exercise, food and hygiene. All living things* • Investigate differences.	Materials • Identify, name, describe, classify, compare properties and changes. • Look at the practical uses of everyday materials.	Light* • Look at sources and reflections. Sound* • Look at sources. Electricity* • Look at appliances and circuits. Forces • Describe basic movements. Earth and space • Observe seasonal changes.

* Items marked * are not statutory.

Year 3 and 4

Topics / Units			
Year	**Autumn**	**Spring**	**Summer**
A	**Rocks** (NC: Year 3: 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. Recognise that soils are made from rocks and organic matter.)	**Animals, including humans** (NC: Year 3: Identify that animals, including humans need the right types and amounts of nutrition, and they cannot make their own food; they get nutrition from what they eat. Identify that humans and some other animals have skeletons and muscles for support, protection and movement.) **Forces and magnets** (NC: Year 3: 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 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.)	**Plants** (NC: Year 3: Identify and describe the functions of different parts of flowering plants. Explore the requirements for plants, for life and growth; and how they vary from plant to plant. 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 dispersal.) **Light** (NC: Year 3: 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 a solid object. Find patterns in the way that the size of shadows changes.) **Consolidation and addressing misconceptions**
B	**Living things and their habitats** (NC: Year 4: Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	**Animals, including humans** (NC: Year 4: Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions.	**States of matter** (NC: Year 4: 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

	Recognise that environments can change and that this can sometimes pose dangers to living things.) **Electricity** (NC: Year 4: 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 lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors.)	Construct and interpret a variety of food chains, identifying producers, predators and prey.) **Sound** (NC: Year 4: Identify how sounds are made, associating some of them with something vibrating. 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.)	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 evaporation with temperature.) **Consolidation and addressing misconceptions**

Work scientifically	Biology	Chemistry	Physics
• Ask relevant questions. • Set up simple, practical enquiries and comparative and fair tests. • Make accurate measurements using standard units, using a range of equipment, e.g. 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, bar charts and tables.	**Understand plants** • Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers. • 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. • Investigate the way in which water is transported within plants. • Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	**Investigate materials** • Compare and group together different kinds of rocks on the basis of their simple, physical properties. • Relate the simple physical properties of some rocks to their formation (igneous or sedimentary). • Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock. • Recognise that soils are made from rocks and organic matter.	**Understand movement, forces and magnets** • 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 to a magnet, and identify some magnetic materials.

• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. • Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests. • Identify differences, similarities or changes related to simple, scientific ideas and processes. • Use straightforward, scientific evidence to answer questions or to support their findings**.**	**Understand animals and humans** • Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. • Construct and interpret a variety of food chains, identifying producers, predators and prey. • Identify that humans and some animals have skeletons and muscles for support, protection and movement. • Describe the simple functions of the basic parts of the digestive system in humans. • Identify the different types of teeth in humans and their simple functions. **Investigate living things** • Recognise that living things can be grouped in a variety of ways. • Explore and use classification keys. • Recognise that environments can change and that this can sometimes pose dangers to specific habitats. **Understand evolution and inheritance** • *Identify how plants and animals, including humans, resemble their parents in many features.*	• 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 the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics. • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	• Describe magnets as having two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing. **Understand the Earth's movement in space** • *Describe the movement of the Earth relative to the Sun in the solar system.* • *Describe the movement of the Moon relative to the Earth.* **Investigate light and seeing** • 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 a solid object. • Find patterns in the way that the size of shadows change. **Investigate sound and hearing** • Identify how sounds are made, associating some of them with something vibrating.

	• *Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.* • *Identify how animals and plants are suited to and adapt to their environment in different ways.* Items in italics are not statutory in the English National Curriculum.		• Recognise that vibrations from sounds travel through a medium to the ear. **Understand electrical circuits** • 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 lights in a simple series circuit. • Recognise some common conductors and insulators, and associate metals with being good conductors.

Comparative & fair testing	Identifying, classifying & grouping	Pattern seeking	Observing overtime	Research using secondary sources

National Curriculum purpose:

Provide the foundations for understanding the world, through biology, chemistry and physics. Teach essential aspects of the knowledge, methods, processes and uses of science. Build up a body of key foundational knowledge and concepts, encourage pupils to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. Encourage pupils to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes

Chris Quigley Breadth of study:

Biology:	Chemistry:	Physics:
Plants • Look at the function of parts of flowering plants, requirements of growth, water transportation in plants, life cycles and seed dispersal.	Rocks and fossils • Compare and group rocks and describe the formation of fossils.	Light • Look at sources, seeing, reflections and shadows. • Explain how light appears to travel in straight lines and how

Evolution and inheritance • Look at resemblance in offspring. • Look at changes in animals over time. • Look at adaptation to environments. Animals and humans • Look at nutrition, transportation of water and nutrients in the body, and the muscle and skeleton system of humans and animals. • Look at the digestive system in humans. • Look at teeth. • Look at the human circulatory system. All living things • Identify and name plants and animals • Look at classification keys.		this affects seeing and shadows. Sound • Look at sources, vibration, volume and pitch. Electricity • Look at appliances, circuits, lamps, switches, insulators and conductors. Forces and magnets • Look at contact and distant forces, attraction and repulsion, comparing and grouping materials. • Look at poles, attraction and repulsion.

Year 5 and 6

Topics / Units			
Year	**Autumn**	**Spring**	**Summer**
A	**Evolution and inheritance** (NC: Year 6: Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.	**Light** (NC: Year 6: Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.	**Living things and their habitats** (NC: Year 5: 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.)

	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.) **Electricity** (NC: Year 6: Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. 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. Use recognised symbols when representing a simple circuit in a diagram.)	Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.) **Animals including humans** (NC: Year 6: Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.)	**Consolidation and addressing misconceptions**
B	**Earth and space** (NC: Year 5: 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.) **Forces** (NC: Year 5: Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.	**Living things and their habitats** (NC: Year 6: Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.) **Animals including humans** (NC: Year 5: Describe the changes as humans develop to old age.)	**Properties and changes of materials** (NC: Year 5: Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Know that 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. Explain that some changes result in the formation of new materials, and that this kind of change is

	Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.)		not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.) **Consolidation and addressing misconceptions**

Work scientifically	Biology	Chemistry	Physics
• 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. • Use simple models to describe scientific ideas, identifying scientific	**Understand plants** • *Relate knowledge of plants to studies of evolution and inheritance.* • *Relate knowledge of plants to studies of all living things.* **Understand animals and humans** • Describe the changes as humans develop to old age. • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. • Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions. • Describe the ways in which nutrients and water are transported within animals, including humans. **Investigate living things** • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	**Investigate materials** • 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. • Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated	**Understand movement, forces and magnets** • Describe magnets as having two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing. • 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. • *Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.* • *Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.* • Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.

evidence that has been used to support or refute ideas or arguments.	• Describe the life process of reproduction in some plants and animals. • Describe how living things are classified into broad groups according to common observable characteristics. • Give reasons for classifying plants and animals based on specific characteristics. **Understand evolution and inheritance** • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. • Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. Items in italics are not statutory in the English National Curriculum.	with burning, oxidisation and the action of acid on bicarbonate of soda.	**Understand the Earth's movement in space** • 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. **Investigate light and seeing** • Understand that light appears to travel in straight lines. • Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes. • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes. • Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. **Investigate sound and hearing**

			• 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. **Understand electrical circuits** • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. • 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. • Use recognised symbols when representing a simple circuit in a diagram.

Comparative & fair testing	Identifying, classifying & grouping	Pattern seeking	Observing overtime	Research using secondary sources

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Chris Quigley Breadth of study:

Biology:	Chemistry:	Physics:
Plants • Look at the function of parts of flowering plants, requirements of growth, water	States of matter • Look at solids, liquids and gases, changes of state, evaporation, condensation and the water cycle. Materials	Electricity • Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials. Forces and magnets.

transportation in plants, life cycles and seed dispersal. Evolution and inheritance • Look at resemblance in offspring. • Look at changes in animals over time. • Look at adaptation to environments. • Look at differences in offspring. • Look at adaptation and evolution. • Look at changes to the human skeleton over time. Animals and humans • Look at classification keys. • Look at the life cycle of animals and plants. • Look at classification of plants, animals and micro-organisms. • Look at reproduction in plants and animals, and human growth and changes. • Look at the effect of diet, exercise and drugs.	• Examine the properties of materials using various tests. • Look at solubility and recovering dissolved substances. • Separate mixtures. • Examine changes to materials that create new materials that are usually not reversible.	• Look at the effect of gravity and drag forces. • Look at transference of forces in gears, pulleys, levers and springs. Earth and space • Look at the movement of the Earth and the Moon and explain day and night

Science skills (enquiry types) for continual assessment and monitoring throughout the year groups.

		Context/topic questions	Enquiry Types				
			Comparative & fair testing	**Identifying, classifying & grouping**	**Pattern seeking**	**Observing overtime**	**Research using secondary sources**
A	Year 1/2	**Animals inc. humans:** How can animals be grouped based on their needs for survival?	X	X	X		X
		Uses of everyday materials: Why can't everything be made from the same material?	X	X			
		Plants: How can we sort plants into different groups? **Plants:** Do plants grow healthier in the light or dark?	X	X	X	X	X
B		**Uses of everyday materials:** Which material would be best to keep the water off?	X	X	X		X
		Animals inc. humans: Are all animals the same?	X	X			X
		Living things and their habitats: What different habitats are there on planet Earth and what lives in each habitat?	X	X	X	X	
A	Year 3/4	**Rocks:** How are igneous, sedimentary and metamorphic rocks formed? **Forces and magnets:** Why can magnets attract from a distance?	X	X	X		X
		Animals inc. humans: Why do our bodies need nutrients from the 5 food groups? **Plants:** Why are flowers an important part of a plant's life-cycle?	X	X			X
		Light: How are shadows formed?	X		X	X	X
B		**Living things and their habitats:** How is environmental change impacting organisms? **Electricity:** How can you be safe when using electrical appliances?	X	X	X		X
		Animals inc. humans: How are humans adapted to an omnivore diet? **Sound:** Why can we hear sounds?	X	X	X		X

		States of matter: How can a solid change to a liquid, and a liquid to a gas?	X	X	X	X	X
A	Year 5/6	**Evolution and adaptation:** Is the type of food a bird eats related to the shape of its beak? **Electricity:** How does the voltage in a circuit affect the loudness of a buzzer?		X	X		X
		Light: How does the distance from a light source affect the size of the shadow?	X	X			X
		Living things and their habitats: How can you group organisms based on their conditions for life? **Animals inc. humans:** How do lifecycles differ in different animals?	X	X		X	X
B		**Earth and space:** How have ideas about the Solar System changed over time? **Forces:** Does the size of a parachute affect the time it takes for it to fall to the ground?	X			X	X
		Living things and their habitats: How can animals, plants and microorganisms be identified, grouped and classified? **Animals inc. humans:** What questions can be used to create classification keys for animals?	X	X		X	X
		Properties and changes of materials: Which material is the best insulator of heat?	X		X		X