



Year 1: Science



Block 1 – Chemistry Everyday Materials

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
<p>In Year 1, pupils are provided with an opportunity to explore everyday materials. They learn to distinguish between an object and the material from which it is made and learn to identify and name a variety of everyday materials. In addition, pupils learn to describe the simple physical properties of a variety of everyday materials and to compare and group together a variety of everyday materials based on simple physical properties of the materials.</p>	<p>Pupils will learn:</p> <ul style="list-style-type: none"> • Objects can be made from a variety of materials. <ul style="list-style-type: none"> - A material is the substance that an object is made from. • Everyday materials include wood, plastic, glass, metal, water, and rock. <ul style="list-style-type: none"> - An object can be made from a variety of materials including wood, plastic, glass, and metal. • Different materials have different physical properties.. <ul style="list-style-type: none"> - Properties of materials include being: absorbent, transparent, and/or waterproof. - Objects can be grouped using the properties of the materials they are made from. 	<ul style="list-style-type: none"> • DC1: Ask relevant questions and use different types of scientific enquiries to answer them. • DC4: Make careful observations. • DC5: Record findings using simple scientific language, drawings, and labelled diagrams. • DC7: Report on findings from enquiries, including oral and written explanations.

Sequence:

The content from this unit leads directly into the 'Uses of Materials' unit in Year 2 and then subsequent materials across Key Stage 2. All chemistry units are about materials, or matter and being able to identify materials and the properties of those materials is a thread which will flow through all of them despite the vocabulary used being different.

Block 2 – Physics

Seasonal Change – autumn and winter

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
<p>In Year 1 pupils observe changes across the four seasons. They observe and describe weather associated with the seasons and how the length of a day varies. This unit focusses on two seasons: autumn and winter.</p>	<p>Pupils will learn:</p> <ul style="list-style-type: none"> • There are four seasons—autumn, winter, spring, and summer. • Different types of weather are associated with different seasons. <ul style="list-style-type: none"> - In autumn, the weather gets colder. It can be sunny, cloudy, windy, and rainy. - In winter the weather is much colder and it may snow. - In autumn, some birds migrate to warmer places, while other animals store food for the winter. - Some animals hibernate during the winter. • Day length varies in different seasons. <ul style="list-style-type: none"> - The days get shorter as the seasons change from autumn to winter. There are fewer hours of daylight in winter. 	<ul style="list-style-type: none"> • DC1: Ask relevant questions and use different types of scientific enquiries to answer them. • DC4: Make careful observations. • DC5: Record findings using simple scientific language, drawings, and labelled diagrams. • DC6: Present data as a pictogram. • DC7: Report on findings from enquiries, including oral and written explanations.

Sequence:

Autumn and Winter is the first physics unit pupils will encounter and is the first of two Year 1 units designed to look at seasons and seasonal changes. The National Curriculum states that pupils should observe the changes across the four seasons, and therefore the decision has been made to teach the knowledge across two units rather than one. By teaching the unit at this point in the year, pupils can observe the changes from autumn to winter for themselves.

Block 3 and 4 – Biology

Animals including humans – Amazing Animals

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
<p>In Year 1, pupils learn to identify and name a variety of common animals. They learn to identify and name carnivores, herbivores and omnivores and to describe and</p>	<p>Pupils will learn:</p> <ul style="list-style-type: none"> • Animals can be grouped into fish, amphibians, reptiles, birds, and mammals by their structural features. 	<ul style="list-style-type: none"> • DC1: Ask relevant questions and use different types of scientific enquiries to answer them. • DC4: Make careful observations.

<p>compare the structure of a variety of animals. In addition, pupils are taught to identify, name, draw and label the basic parts of the human body and say which part is associated with each sense.</p>	<ul style="list-style-type: none"> - Animals are living things that eat, grow, breathe, reproduce, move, react, and get rid of waste. - We can group animals into categories. - A characteristic is a feature some animals share. - Mammals have fur or hair, are warm-blooded, have a backbone, and give birth to babies which they feed with milk. - Birds have feathers, wings, and a beak. They are warm-blooded, have a backbone, and lay eggs. - Fish live in water and have scales, fins, and gills. They are cold-blooded, have a backbone, and lay eggs. - When comparing animals, you should mention both their similarities and their differences. • Animals can be grouped into carnivores, herbivores, and omnivores by the food they eat. <ul style="list-style-type: none"> - Teeth are the hard, white things in our mouths that we use to eat food. • The human body is made of many different parts; each has its own function. <ul style="list-style-type: none"> - The body is made of many parts such as the skeleton which helps you to stand up and move around. • Humans have five senses: sight, hearing, touch, taste, and smell. Each sense uses different body parts. 	<ul style="list-style-type: none"> • DC5: Record findings using simple scientific language, drawings, and labelled diagrams.
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Sequence:

This unit builds on pupils' Understanding of the World (ELG 13). In Reception, pupils learnt about similarities and differences between living things, made observations, explained why things occur and talked about changes. By looking at the natural world, pupils in Year 1 begin to build their scientific vocabulary, with words such as amphibian and omnivore. In science Unit 1 and history Unit 2, pupils grouped items according to their properties. Unit 3 introduces the concept of classifying animals. Pupils will understand that scientists look at commonalities between animals and use similarities to group them.

Block 5 – Physics

Seasonal Change - spring and summer

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
<p>In Year 1, pupils observe changes across the 4 seasons. They observe and describe weather associated with the seasons and how the length of a day varies. This unit focusses on two seasons: spring and summer.</p>	<p>Pupils will learn:</p> <ul style="list-style-type: none"> • There are four seasons—autumn, winter, spring, and summer. <ul style="list-style-type: none"> - There are twelve months in a year. 	<ul style="list-style-type: none"> • DC3: Use a range of equipment. • DC4: Make careful observations. • DC5: Record findings using simple scientific language, drawings, and labelled diagrams. • DC6: Present data.

	<ul style="list-style-type: none"> • Different types of weather are associated with different seasons. <ul style="list-style-type: none"> - The temperature is how we measure how hot or cold it is. - Spring is the season between winter and summer when plants begin to grow. - The Sun is a star that gives Earth light and heat. - Summer is the warmest season of the year, coming between spring and autumn. • Day length varies in different seasons. 	<ul style="list-style-type: none"> • DC7: Report on findings from enquiries, including oral and written explanations.
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Sequence:

The National Curriculum states that pupils should observe the changes across the four seasons, and therefore the decision has been made to teach the knowledge across two units rather than one. By teaching the unit at this point in the year, pupils can observe the changes from spring to summer for themselves.

Block 6 – Biology Common Plants

Overview of unit:	Substantive Knowledge:	Disciplinary Knowledge:
<p>In Year 1, pupils identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. They also identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	<p>Pupils will learn:</p> <ul style="list-style-type: none"> • A plant is a living thing. <ul style="list-style-type: none"> - A tree is a tall plant that can live a long time. • The main parts of a plant are the stem, leaves, and roots. 	<ul style="list-style-type: none"> • DC1: Ask relevant questions and use different types of scientific enquiries to answer them. • DC3: Use a range of equipment. • DC4: Make careful observations.

<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> - A plant is a living thing that usually has a stem, leaves, and roots. - The stem holds up the plant and carries water to the leaves. • Plants can be grown by people or grow in the wild. <ul style="list-style-type: none"> - Garden plants are plants that people choose to grow. - Wild plants grow by themselves. 	<ul style="list-style-type: none"> • DC5: Record findings using scientific language, drawings, and labelled diagrams. • DC6: Present data as a diagram. • DC7: Use results to draw simple conclusions and make predictions. Report on findings from enquiries, including oral and written explanations.
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Sequence:

This is the first unit on the topic of plants. Pupils have observed their local environment throughout the year in the two seasons units and they have learnt the names of some common season plants. This unit builds on pupils' understanding of the seasons by demonstrating how different plants are present in their local environments during different times of the year.