

Skills Progression of Science Year 1 - Cornerstones

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Introduce: - Similarities and differences in relation to places, objects, materials and living things. - Discuss the features of their own immediate environment and how it might vary from others. - Make observations of animals and plants and explain why some things occur, and talk about changes. - Know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.	Introduce: - Everyday materials - types and comparison - Seasonal changes - across 4 seasons - Animals inc humans - 5 animal groups (mammal etc) - Plants - basic structure (stem, leaf, root, flower)	Recap: - Animals inc humans - 5 groups - Everyday materials - types - Plants - basic structure - Seasonal changes	Recap: - Plants - seeds and bulbs grow healthy, what is needed - Animals inc humans - exercise and hygiene	Recap: - Animals including humans - skeleton types and muscles - Rocks and soils - types and formation	Recap: - Living things - grouping and classification; - Forces and Magnets - push and pull; magnetic poles; magnetic materials	Recap: - Animals inc humans - digestive system; life cycle - Light - shadow formation and changes - Electricity - simple series; switches
		Introduce: - Living things - alive/ not alive, suited to habitats - Plants - seeds and bulbs grow healthy, what is needed - Animals inc humans - exercise and hygiene - Materials - everyday uses suitability; bend, twist, stretch, squash	Introduce: - Rocks and soils - types and formation - Forces and Magnets - push and pull; magnetic poles; magnetic materials - Light and shadows - shadow formation and changes - Animals inc humans - skeleton and muscles - Plants - structure functions, flower structure	Introduce: - States of matter - changing state of solid, liquid, gas; water cycle - Electricity - simple series circuits; switches; conductors and insulators - Sound - vibrations; pitch; volume; distance - Living things - grouping and classification; changing environments - Animals inc humans - digestive system	Introduce: - Earth and space - orbit of Earth to sun; orbit of Moon; Earth's rotation - Materials - reversible and irreversible changes; dissolving; separation - Living things - life cycle and reproduction - Animals inc humans - changes in human development - Forces - gravity; resistance; mechanisms	Introduce: - Evolution and inheritance - adaptation; change over time; offspring - Light - straight lines; seeing things - Electricity - symbols; brightness/ volume changes - Living things - classification of plant/ animal kingdoms - Animals inc humans - circulatory system; diet, nutrients and exercise

Purposes for science:

It provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity. All children should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, children should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

We use Cornerstones as our planning base and science is taught within the topic if purposeful links can be made. If none are made, science is taught as a discrete subject.

Year 1				
	Objective (NC PoS)	Skill	Vocabulary	Key Scientists
Term 1 Seasonal changes - Autumn	- Observe and describe weather associated with the seasons and how day length varies. - Observe changes across the four seasons. • Ask simple questions and recognise that they can be answered in different ways. • Gather and record data to help in answering questions. • Identify and classify. • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. • Observe closely, using simple equipment. • Perform simple tests. • Use their observations and ideas to suggest answers to questions. • Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. • Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.	• Ask simple scientific questions. • Describe ways to stay safe in some familiar situations. • Describe, following observation, how plants and animals change over time. • Identify, compare, group and sort a variety of common wild and garden plants, including deciduous and evergreen trees, based on observable features. • Investigate weather using toys, models or simple equipment. • Observe and describe different types of weather. • Observe and describe how day length changes across the year. • Observe changes across the four seasons. • Observe objects, materials, living things and changes over time, sorting and grouping them based on their features. • Observe the local environment throughout the year and ask and answer questions about living things and seasonal change. • Talk about what they have done and say, with help, what they think they have found out. • With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. • With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams). • With support, use simple equipment to measure and make observations.	• Seasons: <u>spring</u>, <u>summer</u>, <u>autumn</u>, <u>winter</u>, seasonal change. • Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. • Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. • Day length: night, day, daylight.	John Dalton (1766 – 1844) - Famous for the amount of time he kept a weather diary for. http://www.sciencemuseum.org.uk/onlinestuff/people/john%20dalton.aspx
	Knowledge (Specific knowledge) • Question words include what, why, how, when, who and which. A rain gauge is a piece of equipment used for measuring rainfall in millimetres (mm). • It is important to stay safe. Some ways to stay safe include staying safe in strong sunlight (sun cream, sun hat and sunglasses), crossing roads (stop, look and listen), in the kitchen (not touching hot or sharp objects) and with household chemicals (not touching, drinking or eating). • All living things (plants and animals) change over time as they grow and mature. Apple trees are deciduous. In winter, branches are bare and develop buds. In spring, buds open as leaves or blossom and fruit starts to grow. In summer, apples grow quickly and ripen. In autumn, apples are ready to be harvested. • Plants are living things. Common plants include the daisy, daffodil and grass. Trees are large, woody plants and are either evergreen or deciduous. Trees that lose their leaves in the autumn are called deciduous trees. Examples include oak, beech and rowan. Trees that shed old leaves and grow new leaves all year round are called evergreen trees. Examples include holly and pine. • Simple equipment can be used for measuring weather, such as measuring temperature with a thermometer; identifying wind direction and force with a windsock or measuring rainfall with a rain gauge. • Different types of weather include sunshine, rain, hail, wind, snow, fog, lightning, storm and cloud. The weather can change daily and some weather types are more common in certain seasons, such as snow in winter. The weather is what the air is like outside in one place and at one time. The Sun creates the weather on Earth. The wind is formed when the Sun heats up different parts of the Earth. Clouds are formed when water is heated by the Sun and rises into the sky. Precipitation falls from clouds as rain when it is warm and snow, hail or sleet when it is cold. • Day length (the number of daylight hours) is longer in the summer months and shorter in the winter months. The length of daytime in winter in the UK is shorter because the Northern Hemisphere is tilted away from the Sun. The length of daytime in summer is longer because the Northern Hemisphere is tilted towards the Sun. • There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons. In winter, the weather can be cold and frosty. Days are short. Deciduous trees are bare, and animals are less active. In spring, days begin to lengthen. The weather is changeable. Trees grow leaves and blossom, and plants start to grow. Animal life is more active, and baby animals are visible. In summer, days are long. There is abundant growth of plants and animals. The weather is warm and sunny with some rain. In autumn, days begin to shorten. The weather is cool and often wet and windy. Some leaves change colour, and plants die off. Animals are active and preparing for winter. The pattern of the seasons is repeated every year. In spring, many animals give birth to young or lay eggs that hatch. In summer, animals eat a lot of food, and young animals grow and learn to look after themselves. In autumn, animals eat or collect lots of food and make nests and shelters to prepare for winter. In winter, animals protect themselves from the cold weather by hibernating, migrating or spending time in their nests. • Objects, materials and living things can be looked at and compared. • The local environment is a habitat for living things and can change during the seasons. • The results are information that has been found out from an investigation. A weather forecast predicts the weather, including the temperature, the type of weather, the chance of precipitation and the strength of the wind for a specific place and time. • Simple tests can be carried out by following a set of instructions. • Data can be recorded and displayed in different ways, including tables, pictograms and drawings. • Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses. The Sun provides Earth with heat and light. However, it gives out invisible rays that can damage our skin and eyes over time. UV beads change colour when exposed to UV light. They are good as an indicator of potentially damaging rays from the Sun. Temperature is the measure of how hot or cold something is. It is measured using a thermometer on many different scales, including degrees Celsius.			

- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • Ask simple questions and recognise that they can be answered in different ways. • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). • Gather and record data to help in answering questions. • Identify and classify. • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • Observe closely, using simple equipment. • Perform simple tests. • Use their observations and ideas to suggest answers to questions. • Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. • Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.	• Ask simple scientific questions. • Describe ways to stay safe in some familiar situations. • Draw and label the main parts of the human body and say which body part is associated with which sense. • The basic body parts are the head, arms, legs, nose, eyes, ears, mouth, hands and feet. • Identify, compare, group and sort a variety of common animals, including fish, amphibians, reptiles, birds, invertebrates and mammals, based on observable features. • Label and describe the basic structures of a variety of common animals, including fish, amphibians, reptiles, birds and mammals. • Observe objects, materials, living things and changes over time, sorting and grouping them based on their features. • Talk about what they have done and say, with help, what they think they have found out. • With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. • With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams). • With support, use simple equipment to measure and make observations.	• <u>Names of animal groups:</u> fish, amphibians, reptiles, birds, mammals. • <u>Animal diets:</u> carnivore, herbivore, omnivore. • <u>Human and animal body parts:</u> e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills. • <u>Human senses:</u> sight, hearing, touch, smell, taste. • <u>Exploring senses:</u> loud, quiet, soft, rough. • <u>Other:</u> human, animal, pet.	Amy Vedder (1951 -) - Wildlife biologist and conservationist http://iwaswondering.org/amy_homepage.html
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Knowledge (Specific knowledge) • Question words include what, why, how, when, who and which. • Ways to stay safe include: using sun cream and wearing a hat in the Sun; stopping, looking and listening when crossing the road; not touching sharp or hot objects; only eating or drinking what you know or have been given by an adult you trust. • Humans are living things. They belong to a group of animals called mammals. • Humans normally have the same body parts. • Humans look different from each other. • Different animal groups have some common body parts. Results are information that has been found out from an investigation. Simple tests can be carried out by following a set of instructions.
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Term 3

Seasonal changes - Winter and Spring

- **Observe and describe weather associated with the seasons and how day length varies.**
- **Observe changes across the four seasons.**
- Ask simple questions and recognise that they can be answered in different ways.
- Gather and record data to help in answering questions.
- Identify and classify.
- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- Observe closely, using simple equipment.
- Perform simple tests.
- Use their observations and ideas to suggest answers to questions.
- Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.

- Ask simple scientific questions.
- Describe ways to stay safe in some familiar situations.
- Describe, following observation, how plants and animals change over time.
- Identify, compare, group and sort a variety of common wild and garden plants, including deciduous and evergreen trees, based on observable features.
- Investigate weather using toys, models or simple equipment.
- Observe and describe different types of weather.
- Observe and describe how day length changes across the year.
- Observe changes across the four seasons.
- Observe objects, materials, living things and changes over time, sorting and grouping them based on their features.
- Observe the local environment throughout the year and ask and answer questions about living things and seasonal change.
- Talk about what they have done and say, with help, what they think they have found out.
- With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen.
- With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams).
- With support, use simple equipment to measure and make observations.

- **Seasons:** spring, summer, autumn, winter, seasonal change.
- **Weather:** e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast.
- **Measuring weather:** temperature, rainfall, wind direction, thermometer, rain gauge.
- **Day length:** night, day, daylight.

Gabriel Fahrenheit (1686 - 1736) - Inventor of the first modern thermometer.
<http://inventors.about.com/od/fstartinventions/a/Fahrenheit.htm>

Knowledge (Specific knowledge)

- Question words include what, why, how, when, who and which.
- A rain gauge is a piece of equipment used for measuring rainfall in millimetres (mm).
- It is important to stay safe. Some ways to stay safe include staying safe in strong sunlight (sun cream, sun hat and sunglasses), crossing roads (stop, look and listen), in the kitchen (not touching hot or sharp objects) and with household chemicals (not touching, drinking or eating).
 - All living things (plants and animals) change over time as they grow and mature.
- Apple trees are deciduous. In winter, branches are bare and develop buds. In spring, buds open as leaves or blossom and fruit starts to grow. In summer, apples grow quickly and ripen. In autumn, apples are ready to be harvested.
- Plants are living things. Common plants include the daisy, daffodil and grass. Trees are large, woody plants and are either evergreen or deciduous. Trees that lose their leaves in the autumn are called deciduous trees. Examples include oak, beech and rowan. Trees that shed old leaves and grow new leaves all year round are called evergreen trees. Examples include holly and pine.
 - Simple equipment can be used for measuring weather, such as measuring temperature with a thermometer; identifying wind direction and force with a windsock or measuring rainfall with a rain gauge.
 - Different types of weather include sunshine, rain, hail, wind, snow, fog, lightning, storm and cloud. The weather can change daily and some weather types are more common in certain seasons, such as snow in winter.
- The weather is what the air is like outside in one place and at one time.
- The Sun creates the weather on Earth. The wind is formed when the Sun heats up different parts of the Earth. Clouds are formed when water is heated by the Sun and rises into the sky. Precipitation falls from clouds as rain when it is warm and snow, hail or sleet when it is cold.
- Day length (the number of daylight hours) is longer in the summer months and shorter in the winter months.
- The length of daytime in winter in the UK is shorter because the Northern Hemisphere is tilted away from the Sun. The length of daytime in summer is longer because the Northern Hemisphere is tilted towards the Sun.
- There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons.
- In winter, the weather can be cold and frosty. Days are short. Deciduous trees are bare, and animals are less active. In spring, days begin to lengthen. The weather is changeable. Trees grow leaves and blossom, and plants start to grow. Animal life is more active, and baby animals are visible. In summer, days are long. There is abundant growth of plants and animals. The weather is warm and sunny with some rain. In autumn, days begin to shorten. The weather is cool and often wet and windy. Some leaves change colour, and plants die off. Animals are active and preparing for winter. The pattern of the seasons is repeated every year.
- In spring, many animals give birth to young or lay eggs that hatch. In summer, animals eat a lot of food, and young animals grow and learn to look after themselves. In autumn, animals eat or collect lots of food and make nests and shelters to prepare for winter. In winter, animals protect themselves from the cold weather by hibernating, migrating or spending time in their nests.
- Objects, materials and living things can be looked at and compared.
 - The local environment is a habitat for living things and can change during the seasons.
 - The results are information that has been found out from an investigation.
- A weather forecast predicts the weather, including the temperature, the type of weather, the chance of precipitation and the strength of the wind for a specific place and time.
- Simple tests can be carried out by following a set of instructions.
 - Data can be recorded and displayed in different ways, including tables, pictograms and drawings.
 - Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses.
- The Sun provides Earth with heat and light. However, it gives out invisible rays that can damage our skin and eyes over time.
- UV beads change colour when exposed to UV light. They are good as an indicator of potentially damaging rays from the Sun.
- Temperature is the measure of how hot or cold something is. It is measured using a thermometer on many different scales, including degrees Celsius.

Term 4

Everyday 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. - Ask simple questions and recognise that they can be answered in different ways. - Gather and record data to help in answering questions. - Identify and classify. - Observe closely, using simple equipment. - Perform simple tests. - Use their observations and ideas to suggest answers to questions. - Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.	- Ask simple scientific questions. - Compare and group materials in a variety of ways, such as based on their physical properties; being natural or man-made and being recyclable or non-recyclable. - Identify and name what an object is made from, including wood, plastic, glass, metal, water and rock. - Investigate and describe the simple physical properties of some everyday materials, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid and waterproof or not waterproof. - Observe objects, materials, living things and changes over time, sorting and grouping them based on their features. - Talk about what they have done and say, with help, what they think they have found out. - With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. - With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams). - With support, use simple equipment to measure and make observations. - Compare shadows made by different objects and materials.	<u>Names of materials</u>: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric. <u>Properties of materials</u>: hard, soft, shiny, dull, stretchy, rough, smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof, absorbent, not absorbent, sharp, stiff. <u>Other</u>: object.	John Boyd Dunlop (1840 – 1921) - http://www.ulsterhistory.co.uk/johndunlop.htm Charles Macintosh (176 – 1843) - http://www.rampantscotland.com/inventors/inventions_waterproof.htm John McAdam (1756 – 1836) - http://inventors.about.com/library/inventors/blJohnMcAdam.htm
Knowledge (Specific knowledge) - Question words include what, why, how, when, who and which. - Materials can be grouped according to their properties. The properties of a material determine its uses. For example, a transparent and waterproof material could be used for a windowpane. - A material is what an object is made from. Everyday materials include wood, plastic, glass, metal, water, rock, brick, paper and fabric. Natural materials come from the world around us, such as the ground, plants and animals. Natural materials include wood, metal, cotton, wool, leather, stone, rubber, clay, silk, oil, water and sand. People make new materials from natural materials. These materials are called human-made materials. Examples of human-made materials include glass, paper, plastic, brick, metal alloys, synthetic fabrics and concrete. Human-made materials look and feel different to the natural materials they are made from. - Materials have different properties, such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid; waterproof or not waterproof. A property is a quality a material has. A material's properties make it suitable for a particular use. - Objects, materials and living things can be looked at and compared. - The results are information that has been found out from an investigation. Materials are all around us, such as in the home, garden, school and park. Materials are important because we use them to make everyday objects. - Simple tests can be carried out by following a set of instructions. - Data can be recorded and displayed in different ways, including tables, pictograms and drawings. A Venn diagram is a way of grouping information or objects using overlapping circles. Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses. - Shadows are normally the same shape as the object that cast them. Shadows change during the day as the Sun appears to change position in the sky. Shadows occur where light is blocked by an opaque object.			

- Observe and describe weather associated with the seasons and how day length varies. - Observe changes across the four seasons. - Ask simple questions and recognise that they can be answered in different ways. - Gather and record data to help in answering questions. - Identify and classify. - Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. - Observe closely, using simple equipment. - Perform simple tests. - Use their observations and ideas to suggest answers to questions. - Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. - Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them.	- Ask simple scientific questions. - Describe ways to stay safe in some familiar situations. - Describe, following observation, how plants and animals change over time. - Identify, compare, group and sort a variety of common wild and garden plants, including deciduous and evergreen trees, based on observable features. - Investigate weather using toys, models or simple equipment. - Observe and describe different types of weather. - Observe and describe how day length changes across the year. - Observe changes across the four seasons. - Observe objects, materials, living things and changes over time, sorting and grouping them based on their features. - Observe the local environment throughout the year and ask and answer questions about living things and seasonal change. - Talk about what they have done and say, with help, what they think they have found out. - With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. - With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams). - With support, use simple equipment to measure and make observations.	Seasons: <u>spring</u>, <u>summer</u>, <u>autumn</u>, <u>winter</u>, seasonal change. Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight.	Inez Fung (1941 -) - Studies climate change. http://iwaswondering.org/inez_homepage.html
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Knowledge (Specific knowledge) - Question words include what, why, how, when, who and which. A rain gauge is a piece of equipment used for measuring rainfall in millimetres (mm). - It is important to stay safe. Some ways to stay safe include staying safe in strong sunlight (sun cream, sun hat and sunglasses), crossing roads (stop, look and listen), in the kitchen (not touching hot or sharp objects) and with household chemicals (not touching, drinking or eating). - All living things (plants and animals) change over time as they grow and mature. Apple trees are deciduous. In winter, branches are bare and develop buds. In spring, buds open as leaves or blossom and fruit starts to grow. In summer, apples grow quickly and ripen. In autumn, apples are ready to be harvested. - Plants are living things. Common plants include the daisy, daffodil and grass. Trees are large, woody plants and are either evergreen or deciduous. Trees that lose their leaves in the autumn are called deciduous trees. Examples include oak, beech and rowan. Trees that shed old leaves and grow new leaves all year round are called evergreen trees. Examples include holly and pine. - Simple equipment can be used for measuring weather, such as measuring temperature with a thermometer; identifying wind direction and force with a windsock or measuring rainfall with a rain gauge. - Different types of weather include sunshine, rain, hail, wind, snow, fog, lightning, storm and cloud. The weather can change daily and some weather types are more common in certain seasons, such as snow in winter. The weather is what the air is like outside in one place and at one time. The Sun creates the weather on Earth. The wind is formed when the Sun heats up different parts of the Earth. Clouds are formed when water is heated by the Sun and rises into the sky. Precipitation falls from clouds as rain when it is warm and snow, hail or sleet when it is cold. - Day length (the number of daylight hours) is longer in the summer months and shorter in the winter months. The length of daytime in winter in the UK is shorter because the Northern Hemisphere is tilted away from the Sun. The length of daytime in summer is longer because the Northern Hemisphere is tilted towards the Sun. - There are four seasons: spring, summer, autumn and winter. Certain events and weather patterns happen in different seasons. In winter, the weather can be cold and frosty. Days are short. Deciduous trees are bare, and animals are less active. In spring, days begin to lengthen. The weather is changeable. Trees grow leaves and blossom, and plants start to grow. Animal life is more active, and baby animals are visible. In summer, days are long. There is abundant growth of plants and animals. The weather is warm and sunny with some rain. In autumn, days begin to shorten. The weather is cool and often wet and windy. Some leaves change colour, and plants die off. Animals are active and preparing for winter. The pattern of the seasons is repeated every year. In spring, many animals give birth to young or lay eggs that hatch. In summer, animals eat a lot of food, and young animals grow and learn to look after themselves. In autumn, animals eat or collect lots of food and make nests and shelters to prepare for winter. In winter, animals protect themselves from the cold weather by hibernating, migrating or spending time in their nests. - Objects, materials and living things can be looked at and compared. - The local environment is a habitat for living things and can change during the seasons. - The results are information that has been found out from an investigation. A weather forecast predicts the weather, including the temperature, the type of weather, the chance of precipitation and the strength of the wind for a specific place and time. - Simple tests can be carried out by following a set of instructions. - Data can be recorded and displayed in different ways, including tables, pictograms and drawings. - Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses. The Sun provides Earth with heat and light. However, it gives out invisible rays that can damage our skin and eyes over time. UV beads change colour when exposed to UV light. They are good as an indicator of potentially damaging rays from the Sun. Temperature is the measure of how hot or cold something is. It is measured using a thermometer on many different scales, including degrees Celsius.

Term 6 Plant parts Animal parts	- Identify and describe the basic structure of a variety of common flowering plants, including trees. - Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. • Ask simple questions and recognise that they can be answered in different ways. • Gather and record data to help in answering questions. • Identify and classify. • Observe closely, using simple equipment. • Perform simple tests. • Use their observations and ideas to suggest answers to questions. • Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics. • Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them. - 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)	• Ask simple scientific questions. • Describe how to care for plants and animals, including pets. • Describe, following observation, how plants and animals change over time. • Identify, compare, group and sort a variety of common wild and garden plants, including deciduous and evergreen trees, based on observable features. • Observe objects, materials, living things and changes over time, sorting and grouping them based on their features. • Observe the local environment throughout the year and ask and answer questions about living things and seasonal change • Talk about what they have done and say, with help, what they think they have found out. • With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. • With support, gather and record simple data in a range of ways (data tables, diagrams, Venn diagrams). • With support, use simple equipment to measure and make observations. • Group and sort a variety of common animals based on the foods they eat. • Identify, compare, group and sort a variety of common animals, including fish, amphibians, reptiles, birds, invertebrates and mammals, based on observable features. • Label and describe the basic structures of a variety of common animals, including fish, amphibians, reptiles, birds and mammals. • Observe objects, materials, living things and changes over time, sorting and grouping them based on their features. • Talk about what they have done and say, with help, what they think they have found out. • With support, follow instructions to perform simple tests and begin to talk about what they might do or what might happen. • With support, use simple equipment to measure and make observations.	• <u>Names of common plants:</u> wild plant, garden plant, evergreen tree, deciduous tree, common flowering plant, weed, grass. • <u>Name some features of plants:</u> e.g. flower, vegetable, fruit, berry, leaf/leaves, blossom, petal, stem, trunk, branch, root, seed, bulb, soil. • <u>Name some common types of plant</u> e.g. sunflower, daffodil.	Barbara McClintock (1902 – 1992) Joseph Banks (1743 – 1820)
	Knowledge (Specific knowledge) • Question words include what, why, how, when, who and which. Plants are important because they provide food, shelter and materials for animals, including humans. • Living things need to be cared for in order for them to survive. They need water, food, warmth and shelter. • All living things (plants and animals) change over time as they grow and mature. In winter, many plants and trees are dormant and have buds on their branches. In spring, leaves and blossom appear on trees and smaller plants begin to grow and flower. • Plants are living things. Common plants include the daisy, daffodil and grass. Trees are large, woody plants and are either evergreen or deciduous. Trees that lose their leaves in the autumn are called deciduous trees. Examples include oak, beech and rowan. Trees that shed old leaves and grow new leaves all year round are called evergreen trees. Examples include holly and pine. Plants grow from seeds or bulbs and need water and sunlight to grow. Plants grow in different places like gardens, meadows, woodlands and hedgerows. Garden plants are looked after by people. Wild plants are not looked after by people. Deciduous trees usually have broad, flat leaves. Evergreen usually have thin, needle-like leaves. • The basic plant parts include root, stem, leaf, flower, petal, fruit, seed and bulb. Trees have a woody stem called a trunk. • Objects, materials and living things can be looked at and compared. • The local environment is a habitat for living things and can change during the seasons. Plants grow from seeds or bulbs. There is a tiny plant inside a seed or bulb that grows when the conditions are optimal. Seeds are smaller than bulbs and come in various shapes, sizes and colours. Bulbs are larger than seeds and typically have a rounded shape and papery coating. • The results are information that has been found out from an investigation. Simple tests can be carried out by following a set of instructions. • Data can be recorded and displayed in different ways, including tables, pictograms and drawings. • Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses. Parts of a leaf include the margin, blade, veins and stalk. Leaves can be simple, palmate, compound, lobed or needle-like. • Carnivores eat other animals (meat), herbivores eat plants and omnivores eat other animals and plants. Carnivores have features to help them hunt and eat other animals, such as eyes on the front of their heads and sharp teeth. Herbivores have features to help them eat plants and keep them safe from other animals, such as flat, sharp teeth and eyes on the sides of their heads. Omnivores have features of both carnivores and herbivores. A Venn diagram shows the relationship between groups of things using overlapping circles. • Animals are living things. Animals can be sorted and grouped into six main groups: fish, amphibians, reptiles, birds, invertebrates and mammals. Animals come in a wide variety of shapes and sizes. All animals are born and grow and change over time. They have senses, breathe, move, eat, get rid of waste and have offspring. Animals are sorted into six main groups based on their common characteristics. For example, all birds have a beak, two wings and two legs and feathers. • Different animal groups have some common body parts, such as eyes and a mouth, and some different body parts, such as fins or wings. • Objects, materials and living things can be looked at and compared. • The results are information that has been found out from an investigation. Simple tests can be carried out by following a set of instructions. • Data can be recorded and displayed in different ways, including tables, pictograms and drawings. Data can be sorted and displayed in a Carroll diagram. A Carroll diagram sorts information into a table using 'yes or no' questions. Simple equipment is used to take measurements and observations. Examples include metre sticks, measuring tapes, egg timers and hand lenses.			