Year One

During Year 1 children develop the skills of working scientifically through 3 units:

Year	Questioning & Enquiry	Observing and Measuring	Investigating	Recording & Reporting Findings	Identifying & classifying	Conclusions	Key Vocab
1	Ask simple relevant questions about the world around us	Observe changes and make comments about them	Perform simple tests with support Begin to say what happened in investigations	Begin to record simple data (e.g. complete a provided table)	To begin to use simple features to compare objects, materials and living things, and, with help, decide how to sort and group them	Begin to talk about what they found out and how they found it out	**Question** **Answer** **Observe** **Equipment** **Sort** **Group** **Record**
Connections to Mathematics Units		**Measuring Week 15** I can compare and describe lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) I can measure and begin to record lengths and heights **Measuring Week 19** I can compare and describe mass/weight [for example, heavy/light, heavier than, lighter than] I can measure and begin to record mass/weight					

Unit 1 (Autumn Term): Living things and their habitats

Connections to other science units: This is the first unit children encounter which is in Year 1. Learning undertaken in this unit will be built on in Year 2 and Year 5 (living things and their habitats)				
Animals, including humans **Year One**	**Humans** >identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense **Identify and name a variety of common animals** > identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals > describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	**I can name and label the main parts of my body** **I can tell you about all 5 of the senses and which body part would be used** **I can use the key vocabulary of fish, amphibian, reptile, bird and mammal to identify some animals in the local environment and through story topic.**	**Head** **Neck** **Arms** **Elbows** **Legs** **Knees** **Face** **hair** **Eyes** **Nose** **Mouth** **Ears** **Tongue** **Teeth** **Sense** **Touch** **Taste** **Smell** **Hear** **See** **human** **Animal** **Fish** **Amphibian** **Reptile** **Bird** **Mammal** **Feather** **Fur**	Pupils should use the local environment throughout the year to explore and answer questions about animals in their habitat. They should understand how to take care of animals taken from their local environment and the need to return them safely after study. Pupils should become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets. Pupils should have plenty of opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes. **Pupils might work scientifically by:** Using their observations to compare and contrast animals at first hand or through videos and photographs, describing how they identify and group them; grouping animals according to what they eat; and using their senses to compare different textures, sounds and smells. **Examples of activities:** > Children look at 12 pictures. They place them into 2 groups - living and non-living. > Children look at 16 different objects and attempt to classify them as alive, dead or never alive. >Children identify and label basic parts of their friend's bodies. >Children use a word bank to label a diagram, showing what part of the body is associated with each sense - sight, hearing, taste, touch and smell. They learn that the sense of touch is associated with the whole body, rather than a particular organ. > Children name a variety of familiar animals and plants. They think about ways to group them. **Links to websites:** **https://www.bbc.co.uk/bitesize/topics/z6882hv** **https://vimeo.com/208148325**

			Skin	**https://www.stem.org.uk/resources/community/collection/12726/year-1-animals-including-humans**
Common misconceptions:				Some children may think: • only four-legged mammals, such as pets, are animals • humans are not animals • insects are not animals • all 'bugs' or 'creepy crawlies', such as spiders, are part of the insect group • amphibians and reptiles are the same.

Unit 2 (Autumn Term): Plants

Connections to other science units: This is the first unit children encounter which is in Year 1. Learning undertaken in this unit will be built on in Year 2 and 4 (Plants)				
Plants **Year One**	**Name a variety of common plants** >identify and name a variety of common wild and garden plants, including deciduous and evergreen trees **Basic structure of plants** >identify and describe the basic structure of a variety of common	**I know and can use key vocabulary to talk about plants** **I can label different parts of plants** **I can identify and name common plants and trees in my surroundings** **I can grow a plant and describe the changes that I see** **I know the names of the four seasons and**	**Flower** **Daisy** **Dandelion** **Petal** **Stem** **Bud** **bulb** **Seed** **fruit** **Tree** **Evergreen** **Deciduous** **Trunk** **Branch** **Season**	Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat. Where possible, they should observe the growth of flowers and vegetables that they have planted. They should become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem). **Pupils might work scientifically by:** Observing closely, perhaps using magnifying glasses, and comparing and contrasting familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees. Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening; and compare and contrast what they have found out about different plants. **Examples of activities:**

	flowering plants, including trees. **From Seasonal Change:** >observe changes across the four seasons >observe and describe weather associated with the seasons and how day length varies.	**can describe how they are different**	**Spring** **Summer** **Autumn** **Winter**	>Children learn that bulbs and seeds can grow into mature plants. They match 5 trees and plants to their bulbs or seeds in a cut and stick activity. They identify whether they are looking at a bulb or a seed >Children use a word bank and pictures to identify 9 common garden plants. They think about ways of grouping the plants, and consider whether they have seen them before. >Children use a word bank and pictures to identify common wild plants. They explore ways of grouping them and think about whether or not they have seen them before. >Children use a word bank and pictures to identify common trees, with reference to their shape, leaves, fruit and seeds. They think about whether the trees lose their leaves or not in the autumn and whether or not the trees are familiar. >Children use a tally chart to investigate the local area and find out how many of 5 different plants there are. They show their results on a simple pictogram. They perform some data handling and analysis, considering which plant was the most common. >Children colour and label the four main parts of a flowering plant - flower, stem, leaf and roots. They discuss the function of each of the four parts. >Children label the 4 main parts of a daisy plant (flower, stem, roots and leaves) and explain their function by cutting and pasting simple descriptions. >Children use a word bank to label the different parts of a range of plants. The parts include petals, roots, stem, leaves, trunk, branch, seed, flower, fruit and bulb. **Links to websites:** **https://www.hamilton-trust.org.uk/science/year-1-science/plants-whats-growing-our-gardens/?gclid=EAIaIQobChMIsaKHu6Kc6QIVibHtCh3w4QCiEAAYASAAEgIZsvD_BwE** **https://www.stem.org.uk/resources/community/collection/12534/year-1-plants**
Common misconceptions:				Some children may think: • plants are flowering plants grown in pots with coloured petals and leaves and a stem • trees are not plants • all leaves are green • all stems are green • a trunk is not a stem blossom is not a flower

Unit 3 (Summer Term): Everyday Materials

Connections to other science units: This is the first unit children encounter which is in Year 1. Learning undertaken in this unit will be built on in Year 4 (States of Matter) and Year 5 (Properties of Materials)				
Everyday Materials **Year One**	**Identify 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 **Identify and group together physical properties of materials** >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. >identify and compare the suitability of a variety of everyday	**I can use the vocabulary for names of materials and properties of materials** **I can name some everyday materials** **I can describe some properties of everyday materials** **I can explore how solids can change their shape**	**material** **hard/soft** **stretchy/stiff** **shiny/dull** **rough/smooth** **bendy/not bendy** **waterproof/not waterproof** **absorbent/not absorbent** **opaque/transparent.** **Brick** **Paper** **Fabric** **Elastic** **Foil** **Metal** **Wood** **Plastic** **Glass** **Rock** **Cardboard**	Pupils should explore, name, discuss, raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent. Pupils should explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil. **Examples of activities:** >Children use a word bank to identify the material that different objects are made from. >Children choose different objects around the classroom. They draw a picture, name the object and identify the material. They sort the objects by material. >Children carry out an investigation into whether objects around the classroom float/sink. They can record their results in a simple table. >Children use a word bank to think about the best material to use in different situations e.g. for an umbrella, lining a dog basket, for curtains, for a bookshelf, for a gymnast's leotard? They draw a picture of each object, and identify the material and its desirable properties. >Test the children's knowledge of materials by making a superhero cape or a fairy wand. Think about which materials are best suited for the job and what properties each need? Would a straw or stick make the best fairy wand for example? **Links to websites for additional activities:** **https://www.stem.org.uk/resources/community/collection/12725/year-1-everyday-materials**

	materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses **How materials can be changed** >find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching			
Common misconceptions:				Some children may think: only **building materials are materials** • only writing materials are materials • the word 'rock' describes an object rather than a material • 'solid' is another word for hard.