SCIENCE CURRICULUM

Summer 1 : EYFS – YEAR 6

SCIENCE CURRICULUM INTENT

The Aims of the National Curriculum for Science:

The national curriculum for Science aims to ensure that all pupils:

● 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

● are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Spring 2

EYFS	Focus of Study
FS 1 – Nursery **Milestones** **N1** • To name and identify different animals. (sci) • To recognise different animal sounds.(sci) **N2** • Children will name and identify zoo animals (sci) • Children will discuss that certain animals live in the zoo. (sci) • Children will say why animals live in zoos. (sci)	**Context for study:** To name and identify animals found in zoos. To know we have zoos to keep animals safe and look after animals who are endangered. **Knowledge Content:** Children will name and sort animals into zoo animals. Children will know what a zoo is. I know that animals live in different places. I know that animals have different sounds I know that you can visit zoos to see animals **Science experiments.** To identify and sort animals into zoo animals and not zoo animals. To identify animals by sounds they make. **Key vocab will include,** Lion, giraffe, tiger, monkey, zebra, penguin, bear, endangered, safe, zoo, wild **Working Scientifically in EYFS** **Scientific Enquiry in EYFS** I can sort animals into animals which live in zoos.

	I can talk about the different animal sounds. I can talk about how zoos look after animals and keep them safe.
F2 - Reception **Milestones** • Children can recognise and name some common Polar and African animals: polar bear, penguin, artic fox, giraffe, zebra monkey, etc. (Sci) • Children will record what they see in the natural world around them through drawings or diagrams. • Children begin to understand what impact humans have had on animals and their environments. (Sci) • Children can identify that certain UK animals live in certain habitats/environments (woodland/ farm/sea/ponds) (Geog and Sci) • Children can label the key parts of an animal. (Sci) • Children begin to understand about camouflage. (Sci) • Children can identify and sort animals according to where they live. (Sci)	**Context for study:** To explore amazing animals and understand the environments they live in. **Knowledge Content:** Children will identify where animals live and understand that their habitat needs to provide all they need to survive. I know that animals have needs to survive. I know that animals use their habitat to provide food and shelter. I know that in this country some animals live in the woods, that some animals live on Farms, that some animals live at the seaside. I know that some animals live in cold places such as Antarctic and some animals live in warmer places like Africa. **Key vocab will include** habitat, environment, survive, woodland, coast, hot, cold, shelter, camouflage. **Scientific Enquiry in EYFS** will include observing and recording through drawings or diagrams animals and sorting animals according to their habitat. **Working Scientifically in EYFS** I can talk about why different animals live in different environments. I can identify different animals and say where they live. I can talk about the different habitats that you might find specific animals. I can talk about how some animals use camouflage to help survive.
Year 1	Focus of Study: Plants
NC Objectives	**Key Explicit Knowledge and Vocabulary**
Pupils will be taught to: identify and name a variety of common wild	**<u>Context for study:</u>** This unit follows on from learning in Reception about the seasons and changes that happen to the plants during those seasons. They have also recognised some fruits and vegetables and named the basic parts of a plant (petals, stem, flower, roots). In year 1, the pupils learn about the names of common plants and trees and learn to identify them by their leaves. They learn about the terms 'evergreen' and

and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees	'deciduous' and how deciduous plants fit into the change of the seasons. This unit is the precursor to work studied in year 2 where pupils will recap common plants and trees studied in year 1 before moving onto how plants grow (including germinations and pollination), what they need to grow healthily and differences between bulbs and seeds. **Begin with a re-visit of elements of seasons from previous unit.** **Knowledge Content:** The study of plants is part of the discipline of **biology** - the study of living **organisms.** Know the names of the following common plants **– e.g. daisy, white clover, poppy, nettle, ivy, bramble** and locate some in the local environment. (also **dandelion** and **grass**) (For further plant identification info see https://www.npms.org.uk/sites/default/files/PDF/NPMS%20ID%20GUIDE_WEB_0.pdf) Know the names of the following common trees **- oak, elm, maple, silver birch, sycamore, horse chestnut, crack willow** Know how to identify them from their leaves, fruit and shape using images (Further tree ID info available here - https://www.countrylife.co.uk/gardens/a-simple-guideto-identifying-british-trees-85493) Know how to identify some of the trees in the grounds of Penistone St Johns Know the term **deciduous -** a tree that sheds its leaves **annually** - this means every year the tree loses its leaves. The leaves of deciduous trees are often large and thin. Know the term **Evergreen** - a tree that has green leaves all year. These leaves are usually, waxy, thick, narrow and small. Know that oak, birch and sycamore are deciduous Know that holly and pine are evergreen. Know the names of the basic parts of a plant and their function - **leaves, flower, stem, roots, petals** Know that: **leaves** collect energy from the sun to help the plant grow **flower** creates seeds **stem** holds the flower and leaves up high and transports water **root** collects nutrients and water from the soil to help the plant grow **petals** the coloured part of a flower that attracts insects Know how to draw a **diagram** showing the parts of a plant Know the names and function of parts of a tree - **roots, trunk, branches, leaves**.

	Know that a tree trunk is a type of stem. Know that flowers on a tree are often called **blossom**. Know that fruit often grows on trees including - **apples, oranges, cherries, lemons, bananas, mangoes, pears and plums**. Know that the **fleshy** part of the fruit generally protects the seeds within. Recognise examples of seeds and **pips** found in apples, oranges, peaches and cherries. Know that **seeds** are buried in the ground (or planted) and grow into new plants. Know that **seeds** come in all shapes and sizes and can be found in **fruits and vegetables.** Know that **bulbs** are short stems with leaves built up around it. They are planted in the ground and new plants can grow. Know that **onions** are an example of a bulb that we can eat. Know how to use a **magnifying glass** to study flowers and plants closely and know how to record information about these flowers. Key Vocabulary: **Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud. Names of trees in local area, garden and wild flowering plants**. **Working Scientifically** I can make careful observations. I can keep a diary to explain how a seed grows. I can carefully draw and label a plant. I can label parts of a plant. I can make comparisons between animals and give my reasons. I can make simple predictions **Scientific Enquiry** I can **find out** how long different fruits and vegetables take to grow. I can **observe** seed growth over time.

	I can **identify** plants in the environment. I can **identify and classify** parts of the plant. I can **spot patterns** between different groups of animals. I can **observe** types of leaves over time.
Year 2	Focus of Study: Plants
NC Objectives	**Key Explicit Knowledge and Vocabulary**
Pupils should be taught to: 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.	**<u>Context for study:</u>** This unit follows on from learning in Reception about the seasons and changes that happen to the plants during those seasons. They have also recognised some fruits and vegetables and named the basic parts of a plant. In year 1 the pupils learned about the names of common plants and trees and how to identify them by their leaves. They learn about the terms 'evergreen' and 'deciduous'. In year 2 pupils will recap common plants and trees studied in year 1 before moving onto how plants grow (including germination and pollination), what they need to grow healthily and differences between bulbs and seeds. This unit includes an investigation about growing healthy plants. This is the precursor to work studied in Year 3 looking more at what plants need to grow healthily. They will also study water transportation and the process of the life cycle of the plant including pollination, seed formation and seed dispersal. In Year 6, pupils continue to study plants by studying plant classification for flowering and not flowering plants. **Begin with a re-visit of elements plants from Year 1.** **<u>Knowledge Content:</u>** The study of plants is part of the discipline of **biology** - the study of living **organisms.** Know the names of common trees and plants from Y1 curriculum (see below) Plants - **daisy, white clover, poppy, nettle, ivy, bramble, dandelion** and **grass** and introduce new species **daffodils, roses, thistle** and **shamrock** (all UK national flowers) Know that roses are England's **national flower**, that thistles are Scotland's national flower, daffodils are Wales' national flower and shamrocks are Northern Ireland's national flower (Know that Shamrock's are closely related to clover). Know how to use the term **species** to describe different plants.

	Trees - **oak, elm, maple, silver birch, sycamore, horse chestnut, crack willow** Know the parts of a plant as **roots**, **stem**, **flower**, **leaves** (revision from Y1) Know that roots support the plant in the ground and **absorb** water and **nutrients** needed for growth. Know that nutrients are **substances** that help plants and animals to grow. Know that the stem holds the flower and leaves up to the sunlight and carries water and nutrients to the leaves. Know that leaves are made to catch sunlight and change the sun's energy into energy for the plant to use to grow. They are the only living things that can do this. Know that the flower is where seeds are made. Know that bees and insects help this process by carrying **pollen** from one flower to another. This is called **pollination.** Know that plants grow from **seeds** or **bulbs**. Identify pictures of seeds and bulbs. Know that seeds are **sown** and bulbs are **planted**. Know that when a seed **germinates** it starts to grow. This process is called **germination**. As a plant grows it becomes a **seedling** before becoming an adult plant. Know that a **shoot** is a new part of a plant that grows Know that seeds and bulbs have a **store** of food inside them Plant Life Cycle Diagram - Understand why a circle diagram is used to understand the life cycle of a plant. Know the lifecycle of a **sunflower and dandelion** Know that seeds come in all shapes and sizes and can be found in fruits and vegetables. Know that seeds need the following to germinate - ● **Water** ● **Oxygen** ● **Warmth** Know that plants need the following to grow and be healthy - ● **Water** ● **Air** ● **Warmth** ● **Light** ● **Nutrients** ('food' absorbed by the roots) Know that healthy plants are green and strong unhealthy plants are often pale, yellowy and weak.

	Know that plants adapt to their environment and climate. E.g., cactus adapts to live in the desert, palm trees in hot weather and lily in a pond Know that **botanists** are people who study plants Know that examples of famous botanists include: **Carl Linnaeus, George Washington Carver and Dr Angie Burnett** Key Vocabulary: **Leaf, flower, blossom, bud, petal, berry, root, seed, stalk, trunk, branch, stem, bark, fruit, light, shade, sun, warm, cool, water, grow, healthy, germinate, climate, nutrients.** **Working Scientifically** I can identify and labels parts of a plant. I can make observations on how plants grow and offer explanations. I can use a Venn diagram to sort and classify seeds in different ways. I can identify a range of plant seeds using my observations. I can make basic predictions and explain my reasons. I can carry out simple tests. I can communicate clearly what a plant needs to grow. I can ask simple questions to investigate I can evaluate my test and suggest simple improvements. I can observe how different plants grow in different climates. I can record my results in a table. **Scientific Enquiry** I can **identify and classify** parts of a flower. I can **observe** how plants grow over time. I can **sort and classify** seeds using my own criteria.

	I can **Identify** plants in the natural environment. I can **observe** plants growing over time. I can carry out a **comparative test**. I can record my **observations** after 2 weeks. I can **look for patterns** in my tests. I can **look for patterns** in my results and explain the changes. I can **research** how plants survive in different conditions. I can **identify and classify** different trees or foods.

Year 3	Focus of Study: Plants
NC Objectives	**Key Explicit Knowledge and Vocabulary**
Pupils should be taught to: identify and describe the functions of different parts of flowering plants: roots, stem/trunk, 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	**Context for study:** This unit is the third of six science units where pupils learn about plants as part of the discipline of biology - the study of living organisms**.** Pupils are able to identify and name a variety of common wild and garden plants including deciduous and evergreen trees. Pupils are also able to identify and describe the basic structure of a variety of common flowering plants, including trees. During this unit, pupils revise a significant amount of knowledge from Year 2: the parts of a plant/tree; the function of each part of a plant; what seeds and plants need to grow and be healthy. This unit also reviews and builds upon pupils' knowledge of germination, pollination and life cycle diagrams. New learning includes seed formation and the four methods of seed dispersal. Pupils investigate the way in which water is transported within plants. The knowledge acquired in this unit will help pupils to group and classify living things in Year 4. This is the precursor to work studied in Year 5 when pupils construct food chains and in Year 6 when pupils study Linnaean classification, adaptations and sexual reproduction in plants. **Begin with a re-visit of elements of plants from Year 2.** **<u>Knowledge Content:</u>** The study of plants is part of the discipline of **biology** - the study of living **organisms.**

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 seed dispersal.	Living things move, grow, consume nutrients and reproduce; that dead things used to do these things, but no longer do; and that things that never lived have never done these things. This is the process of **pollination, seed formation and dispersal.** Know that different parts of plants have one or more **functions** (jobs) **Evergreen** trees maintain their leaves throughout the year and that deciduous trees shed their leaves in autumn (revision from Year 1 unit) Know the following parts of a plant/tree (revision from Y2 unit) roots**, stem, trunk, leaves** and **flower**. Know that flowering plants are any plant that produces a flower head or fruit. Know the function of each part of a plant (revision from Year 2). **Roots** keep the plant secured within the ground and also collect water and **nutrients** from the soil. The stem keeps the plant upright and transports water to the leaves and flower head. The leaves collect energy from the sun to make into food. Plants are **producers**, as they make their food. <u>What Seeds and Plants need to grow (revision from Y2)</u> Know that seeds need the following to germinate - ● **Water** ● **Oxygen** ● **Warmth** Know that plants need the following to grow and be healthy (revision from Year 2) - ● **Water** ● **Air** ● **Warmth** ● **Light** ● **Nutrients** <u>Pollination, Seed formation and seed dispersal</u> Know that pollination happens when an insect carries pollen from the male part of the plant (stamen) to the female part (pistil). This allows the new plant to make new seeds and fruit. Know that the flower is used to form seeds and attract animals for **pollination**. Insects such as bees

travel from flower-to-flower drinking **nectar** for energy. Know that nectar is a sweet liquid produced by flowers, which bees and other insects collect.
Know that they collect pollen from one flower which sticks to their bodies. The grains of pollen from one plant stick to another plant and this begins the process of seed making. This is called pollination.
(Know that some people are **allergic** to pollen and this is known as **hayfever** which causes the nose and eyes to run)
After pollination over a number of days seeds begin to form in the flower head.
When the seeds are developed, they are scattered away from the **parent plant** through a process called **seed dispersal**.
Know the importance of **brightly coloured petals** and flower heads as these colours can be seen by **insects** as '**advertisements'** for food
Know the four methods of seed dispersal -

Method	Description	Examples of seeds
Wind Dispersal	seeds are blown to a new location	sycamore, dandelion
Water Dispersal	seeds float on water to a new location	coconut
Animal Dispersal	animals carry seeds either on their skin or in their stomachs after eating to a new location	blackberry, cherry, burdock
Explosion	dry seed pods crack open and the seeds fly out to a new location	poppy, laburnum

Know the life cycle of a plant as follows -
Germination > Growth > Pollination > Seed Formation > Seed Dispersal > Germination…
Know detailed parts of a plant: **Filament, style, pistil, sepal, stem, ovary, stamen, petal, anther**
Know that water is transported through the flower using a process called capillary action. The water transports up the stem to the rest of the flower.
Know that the water is needed keep the plant alive and healthy.

	Know that photosynthesis uses sunlight to make food for the plant. Know that photosynthesis happens in the leaves of a plant. The leaves contain chlorophyl, this and light energy help convert carbon dioxide and water into oxygen and glucose- which is food for the plant. Know the **lifecycle of a sunflower** Know that **botanists** are people who study plants Know that examples of famous botanists include: **Carl Linnaeus, George Washington Carver, Alexander Von Humboldt, Oliver Rackham and Dr Angie Burnett** Key Vocabulary: **Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal- wind dispersal, animal dispersal, water dispersal, pollen, roots, stem, trunk, leaves, absorb, nutrients, reproduce, germination, stamen, style.** **WORKING SCIENTIFICALLY** I can record my findings using labelled scientific diagrams. I can plan a comparative test I can interpret my findings using scientific knowledge. I can explain in detail what pollination is. I can evaluate my seed spinner. I can look carefully at seeds **Scientific Enquiry** I can **identify** the parts of the plant. I can carry out a **comparative test.** I can **make observations** over time. I can **use research** and my **own scientific knowledge** to explain the process. I can **look for patterns**.

	I can **identify and classify** different seeds.
Year 4	Focus of Study: Sound
NC Objectives	**Key Explicit Knowledge and Vocabulary**
Pupils should be taught to: 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.	**Context for Study:** This is a stand-alone unit where pupils learn about sound as part of the discipline of **physics** - the study of the processes that shape our world and how we use it. It is important to assume that all pupils have very little prior knowledge in this unit. During teaching, extra attention must be given to explicitly teaching the precise meaning of subject specific vocabulary as pupils may be unfamiliar with this. This unit does not link directly with any future science teaching so it is important that knowledge is secured during the unit. In Year 4, pupils identify how sounds are made and recognise that vibrations from sounds travel through a medium to the ear. Learning includes the anatomy of the ear and how whales communicate via Whale Song. The knowledge of sound acquired in this unit will help pupils find patterns between the pitch of a sound and features of the object that produced it. It also helps pupils find patterns between the volume of a sound and the strength of the vibrations that produced it. Pupils will know that sounds get fainter as the distance from the sound source increases. **Begin with a re-visit of elements of Light from Year 3.** **<u>Knowledge Content:</u>** The study of sound is part of the discipline of **physics** - the study of the processes that shape our world and how we use it**.** <u>Sound and Vibrations</u> Know sounds are made when something **vibrates**. Know that vibrate means to shake with repeated small quick movements. Know that metal vibrates when it is struck, **vocal chords** inside our throat vibrate when we speak. This causes the air around the source of the sound to vibrate. The vibration travels through the air to our ear in a **wave**. Sound waves can travel through **solids** (such as metal, stone and wood), **liquids** (such as water) and **gases** (such as air). Know that sound travels in longitudinal waves as each particle pushes the particles next to it.

Maths N.C Statistics objectives:	Know that sound waves carry energy from one place to another by moving the medium they travel through in a regular way. The waves move the medium as a series of compressions where the molecules move together and rarefactions where they are spread further apart. The energy travels in the same direction as the movement of the wave. Know that where there is no gas, there is no sound. Sound cannot travel through space as there is no air. This is called a **vacuum**. Whale Song Know that whales can communicate over many miles underwater. They communicate through a combination of clicks, whistles and pulsing sounds. This is often called Whale Song. Know that sound travels four times faster underwater than through air. Some whale song can be heard over 100 miles away from the **source**. Know that **ambient noise** created by humans such as boats, machines in the water can cause difficulties for whales trying to communicate. Listen to https://www.youtube.com/watch?v=WabT1L-nN-E Read the Whales' Song by Dyan Sheldon. Further information - http://www.whalefacts.org/how-do-whales-communicate/ **Anatomy** of the ear Know the **structure**/ anatomy of the human ear. Know that the ear consists of the **outer ear** and **inner ear**. Know that the **eardrum** is a thin piece of stretched skin inside the ear which vibrates. These vibrations then travel through a sequence of small bones (the smallest bones in the human body). These bones connect to the **cochlea**. The cochlea looks like a snail shell (the word 'cochlea' means snail in Ancient Greek). Small hairs in the cochlea convert the vibrations into nerve impulses which send information to the brain for processing. Pitch

	Know that **pitch** is how high or low a sound is. Know that the following words would be used to describe low and high pitch sounds Know that a low pitch would be a squeak or squeal Know that a high pitch would be a rumble, grunt or boom Know that pitch and **volume** are different - volume is how loud or quiet a sound is. Know that there are **high pitches** and **low pitches**. Know that faster vibrations =higher pitch Know that slower vibrations = lower pitch A short string gives a higher-pitched sound than a long string when they are plucked. A tight drum skin gives a higher-pitched sound than a loose drum skin. <u>Volume</u> Know that the **volume** of a sound is how loud or quiet a sound is. Know that the stronger the vibrations the louder the sound. The weaker the vibrations the quieter the sound. Know that as sounds travel the vibrations become weaker, because they run out of energy. This means that the volume of the sound will decrease the further away a sound is from an ear to hear it. Know that the frequency of a sound is measured in hertz (Hz). This means the number of vibrations per second the particles are making as they transmit the sound. <u>Key Vocabulary</u>: **Sound, source, vibrate, vibration, travel, pitch, volume, faint, loud, insulation.** **<u>WORKING SCIENTIFICALLY</u>** I can make careful observations and identify similarities and differences. I can set up tests to create the best string phone I can record my results in a table to spot patterns. I can record my results in a table and a line graph.

	I can observe how sounds are created and feel the vibrations causing the sound. **<u>Scientific Enquiry</u>** I can **compare and group** materials depending in their properties. I can **plan a fair test**. I can **spot patterns** in my results. I can **spot pattens** in my results to **make conclusions.** I can carry out a **pattern seeking** enquiry.

Year 5	Focus of Study: Living things and their habitats
NC Objectives	**Key Explicit Knowledge and Vocabulary**
Pupils should be taught to: describe the differences in life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction in some plants and animals	**Context for study**: This unit is the fifth of six science units where pupils learn about plants and animals as part of the discipline of biology- the study of living organisms. Pupils have a secure knowledge of the functions of the different parts of flowering plants and the requirements of plants for life and growth. They know how water is transported within plants and the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. Pupils can identify and name a variety of living things in their local and wider environment and use classification keys to help group plants and animals. This unit builds on pupils' understanding living things and their habitats. New learning includes knowing species of animals and plants describing the differences in the life cycles of different species. Pupils further develop their knowledge of the seven life processes. In this unit, pupils revise and further develop their knowledge of the functions of the different parts of flowering plants related to reproduction. In Year 5, pupils learn that sexual reproduction in plants happens in a cycle-like pattern: germination, pollination, fertilization and seed dispersal (Year 3 revision) The knowledge acquired in this unit will help pupils understand the life process of reproduction in some plants and animals. This is the precursor to work studied in Year 6 when pupils study Linnaean classification, adaptations and evolution.

Begin with a re-visit of elements of Plants from across KS1/2.

<u>Knowledge Content:</u>

Know that the study of living things and their habitats is part of the discipline of **biology** - the study of living **organisms.**

Revise the parts of a plant and their function - **roots, stem, leaves, flower**. (see Y2)

<u>Life processes and life cycles</u>

Revise the seven life processes (from Y2) are **Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion and Nutrition**. Use the acronym **MRS GREN** to recall these.

M	Movement	All living things move, even plants.
R	Respiration	Getting energy from food.
S	Sensitivity	Detecting changes in the surroundings.
G	Growth	All living things grow.
R	Reproduction	Making more living things
E	Excretion	Getting rid of waste.
N	Nutrition	Taking in and using food.

<u>Life Cycles</u>

Know that a life cycle is the different stages of life for a living thing. All animals, including humans, have a life cycle as all animals are born, grow, reproduce and die. In science, it's usually displayed as a circular diagram showing each stage in words and/or pictures.

Mammal

Birth > child (juvenile) > adult

Frog (**amphibian**),

frog spawn > tadpole (larvae) > froglet > adult frog

	Butterfly (**insect**) Know that the life cycle consists of four stages: egg, larva, pupa, and adult. ● **Egg**: Eggs are oval shaped and tiny (they are about 1 mm long) ● **Larva**: The worm-like larvae have no eyes and no legs. The larvae **molt** (shed their skin) many times as they increase in size. ● **Pupa**: After reaching a certain size, the larva spins a silk-like **cocoon** around itself (against a solid object) and **pupates**. During this time the body **metamorphoses** (changes) into its adult form. ● **Adult**: The pupa emerges as an adult. The entire life cycle usually lasts from 6 to 10 weeks. (**bird**). Egg > Young (juvenile) > Adult <u>Life cycle of a plant</u> Know that sexual reproduction in plants happens in a cycle-like pattern. Flowers come from seeds, and they create seeds too. All flowering plants go through the following life cycle - 1. **Germination** is the process by which a plant begins to grow from a seed. Roots form under the soil. The stem, leaves and flower emerge above the soil. 2. **Pollen** produced by a flower is carried by insects or blown by the wind to another flower. This process is called **pollination**. 3. When the pollen reaches another flower, it travels to the **ovary** where it **fertilises** the **ovules** (**egg cells)** to make seeds. This process is called **fertilisation**. 4. These seeds are scattered by animals or the wind. This process is called **dispersal**. Some of the seeds will grow into new plants. Know the parts of a flower related to reproduction - **stamen** (male) consists of the **anther** and **filament**. The **carpel** (female) consists of the **stigma, style, ovule** and **ovary**. Know how to label these on a diagram of a flower. Seed dispersal - https://www.bbc.com/education/clips/znvfb9q

	Know that plants can also reproduce asexually. Examples of this include: **Bulbs** – short underground stem that contains stored food. New bulbs sprout from old bulbs. e.g., garlic, onion, daffodil **Tubers** – vegetables that grow underground such as a potato with buds from which new plants grow. e.g., artichoke **Runners** – A stem that grows horizontally along the ground called a stolon which produce new clone plants e.g., strawberry plant **Plantlets** – A small plant. They naturally create stolons with plantlets on the end which are clones of the parent plant. **Spores** - Produced on the underside of a fern leaf and are how they reproduce. They look like little dots and may be harvested. Know that scientist **Jane Goodall** is an English conservationist whose ground-breaking research on chimpanzees has shaped our understanding of what it is to be human. Know that scientist **David Attenborough** is an English broadcaster and naturalist; best known for his educational tv programmes. Key Vocabulary: **life cycle, live, young, fertilises, egg, runners, reproduce, sperm, metamorphosis, gestation, cuttings, plantlets, bulb, sexual/asexual reproduction** **WORKING SCIENTIFICALLY** I can use oral and written forms to report conclusions I can present data in a variety of different ways to help answer my questions I can ask relevant questions and find ways to answer them. I can make accurate and relevant predictions I can suggest next steps based on the weakest aspects of my enquiry I can record my results using a bar chart and can explain the results **Scientific Enquiry** I can **identify patterns** that might be found in the natural environment I can **sort and classify** different life cycles to identify similarities and differences. I can independently use secondary sources to **research** the work of naturalists and animal behaviourists.

	I can **report and present** my findings from research I can **present my findings** including explanations in oral and written forms. I can **look for patterns** when considering gestation periods of animals

Year 6	Focus of Study: Evolution and inheritance
NC Objectives	**Key Explicit Knowledge and Vocabulary**
Pupils should be taught to:	Continuation of evolution and inheritance (See Spring 2 intent document) SATS preparation