

SCIENCE CURRICULUM OVERVIEW LINKED TO NATIONAL CURRICULUM.

Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Plants	Animals Including Humans	Animals Including Humans	Rocks	Light	Forces/Magnets
<p>Working Scientifically lks2w1: asking relevant questions and using different types of scientific enquiries to answer them lks2w2: setting up simple practical enquiries, comparative and fair tests lks2w3: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers lks2w4: gathering, recording, classifying and presenting data in a variety of ways to help in answering questions lks2w5: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables lks2w6: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions lks2w7: using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions lks2w8: identifying differences, similarities or changes related to simple scientific ideas and processes lks2w9: using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>Children grow 1, 4, 9 and 16 onion sets in 4 different pots. They make observational drawings and measure the height of the plants over 4 weeks. They use their measurements to complete a line graph showing the growth of all plants</p>	<p>Children learn about the 5 food groups - bread, cereals and potatoes (carbohydrates), meat and fish, fruit and vegetables, milk and dairy, and fats and sugars. They identify some food which belong to each of these groups. They create a pictogram showing how many portions of each food group they should eat in per day. They can cut and paste the pictogram symbols provided, or draw their own.</p>		<p>Children explore how fossils are formed in sedimentary rock. They learn that some ancient organisms died, were covered soon after death, formed fossils and were then uncovered. Children create their own process description with diagrams by cutting and pasting, or draw their own diagrams and write their own descriptions.</p>	<p>Children investigate how moving a light source affects the size of an object's shadow. They predict and then measure the width of the shadow cast when the light source is at a range of distances. They transfer their results from their table to a bar chart. Finally, they attempt to explain the relationship between light source distance and shadow size.</p>	<p>Children investigate which objects and materials will prevent a paperclip from being attracted to a magnet when placed between them. They attempt to identify the main material each object is made from. They use their results to complete a Venn diagram containing a single set. They attempt to explain their findings.</p>
	<p>Children look at 9 images of food plants. They identify the different parts, including roots, tuber, stem, bulb, trunk, branch, leaf, flower, and fruit. They discuss which part of the plant we normally eat.</p>	<p>Children learn that animals can be classified as herbivores, carnivores or omnivores based on their diet. They cut out images of animals, paste them into the correct group, and identify a possible food source for each animal.</p>		<p>Children use a hand lens to look at a selection of rocks. They make observational drawings and describe them with the help of a word bank. Children try to identify the name of each rock and whether it contains grains, crystals, or fossils.</p>	<p>Children learn that we see things because they are either light sources that make light, and that we see them because light travels directly into our eyes, or they are non-light sources that we can see because light reflects off them into our eyes. They cut out 12 different images and place them into 2 groups - light sources and non-light sources.</p>	<p>Children investigate how magnets can make objects move on different surfaces. They attach a metal paperclip to a book and investigate how placing it on different surfaces affects how easily a magnet can move it. They record their predictions and measurements in a table, and then transfer their results to a bar chart.</p>

SCIENCE CURRICULUM OVERVIEW LINKED TO NATIONAL CURRICULUM.

<p>Knowledge and Understanding Statutory requirement 3a1: identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 3a2: 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 3a3: investigate the way in which water is transported within plants 3a4: explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 3b1: identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat 3b2: identify that humans and some other animals have skeletons and muscles for support, protection and movement. 3c1: compare and group together different kinds of rocks on the basis of their appearance and simple physical properties 3c2: describe in simple terms how fossils are formed when things that have lived are trapped within rock 3c3: recognise that soils are made from rocks and organic matter. 3d1: recognise that they need light in order to see</p>	<p>Children label a diagram of a flowering plant. They explain the function of the flower, stem, leaves and roots. Children can cut and paste descriptions or write their own.</p> <p>Over the course of 4 weeks, children compare the growth of a tomato plant, a cactus plant, and cress when grown in sand rather than compost. They identify the variable, make a series of observational drawings and explain what happened.</p> <p>Children predict and measure how long it takes coloured liquid to rise up the stem of a carnation flower and colour its petals. They make a drawing of the flower at the start and end of the investigation and predict what would happen if the flower had a shorter stem.</p>	<p>Children learn that all living things ultimately get their energy from the Sun, either directly as a producer (plant) or indirectly as a consumer (animal). They cut and paste three simple food chains using the images provided. There is a blank food chain template on the third page so that children can create their own.</p> <p>Building on their understanding of simple food chains, children use the images and template provided to create a complex food web containing 7 organisms. They learn that the arrows on food chain and food web diagrams indicate the energy flow through an ecosystem.</p> <p>Children learn about the three main functions of the human endoskeleton - to protect, to support, and to allow movement. They learn the names and locations of major bones, including the skull, jaw, humerus, radius, ulna, spine, pelvis, femur, tibia and fibula. Children cut out and assemble a 12-part human skeleton, labelling the main bones.</p>		<p>Children carry out an investigation to place a selection of 8 rocks in order of hardness. They predict and then test whether a rock can scratch each of the other rocks. They use their simple results table to create a frequency table and bar chart, and finally attempt to place the rocks in order of hardness.</p> <p>Children investigate the properties of rocks. They predict and then observe whether 8 different rocks can be scratched with a nail, are porous, or can float in water. They use their results to create and label a 1-set Venn diagram.</p> <p>Children research and discuss some different types of living things whose remains have become fossils inside sedimentary rock. They learn that fossils are rare and often incomplete. They look at 4 images of fossils, label what they can see, and make a drawing of what the organisms might have looked like when it was alive.</p>	<p>Children investigate the number of light sources in the different rooms in their school, starting with their classroom. They record their findings on a tally chart which they then turn into a frequency table. Finally, children display their results on a horizontal bar chart, selecting a suitable scale for their graph. They discuss what a light source is, how most light sources are powered and why different rooms have different numbers of light sources.</p> <p>Children learn that some objects are visible because they are light sources and some are visible because they reflect light. Children look at 9 different images of objects that help us to see at night. They identify whether they are light sources or reflectors, and place them on a single-set Venn diagram to record their classification.</p> <p>Children learn about the importance of the Sun as the ultimate energy source for all life on Earth. They also learn about different ways in which exposure to the Sun can be dangerous to humans. Children explain, and illustrate, ways in which the Sun can damage our eyes and skin and ways that this damage can be minimised.</p>	<p>Children investigate how powerful 5 different magnets are. They predict and then measure the distance at which each magnet will attract a paperclip, recording their results in a table. They transfer their results to a bar chart and place the magnets in order of strength.</p> <p>Children carry out an investigation to find out which classroom objects are magnetic. They consider what they are going to measure and how to make their test fair. Children predict and measure which classroom objects are magnetic. They transfer their results to a 2-dimensional Carroll diagram, showing both which objects were magnetic and which were made of metal. They attempt to find a pattern in their results.</p> <p>Children investigate which metal classroom objects are also magnetic. They think about how they will make their test fair. Children palce their results in a Venn diagram containing 2 overlapping sets, and think about in which of the 4 areas to place each result. They discuss the relationship between the type of metal an object is composed of and whether it is magnetic.</p>
---	--	--	--	---	--	---

SCIENCE CURRICULUM OVERVIEW LINKED TO NATIONAL CURRICULUM.

<p>things and that dark is the absence of light 3d2: notice that light is reflected from surfaces 3d3: recognise that light from the sun can be dangerous and that there are ways to protect their eyes 3d4: recognise that shadows are formed when the light from a light source is blocked by a solid object 3d5: find patterns in the way that the size of shadows change.</p>	<p>Children read about the 4 stages in the life cycle of a flowering plant - germination, growth, flowering, and fertilisation/seed production. They create a life cycle diagram, cutting and pasting descriptions and pictures or writing and drawing their own.</p>	<p>Children learn that muscles always pull and never push, and because of this they often work in pairs to allow movement in both directions. Using a template and some split pins, children create their own model of the human arm, with biceps and triceps pulling the lower arm up and down accordingly.</p>		<p>Using hand lenses, children explore two different soil samples. They identify differences and similarities, looking for sand, plant parts, water and minibeasts. They create an observational drawing and write a description of each sample.</p>	<p>Children learn that shadows are formed when an opaque object blocks the path of light, which travels in straight lines. They use a light source to cast an object's shadow onto a piece of paper and draw around the outline. They investigate and explain into how the shape of an object affects its shadow.</p>	<p>Children carry out an investigation to test the strength of up to 10 magnets. They predict and then measure how many 1p coins they can place in a bag held by a paper clip attracted by the magnet before the bag and paper clip fall off. Children transfer their results to a bar chart and place the magnets in order of strength.</p>
	<p>Children learn how pollination is vital to flowering plant reproduction. They read about insect pollination and create their own process description by either cutting and pasting descriptions or writing in their own words.</p>	<p>Children match three different animals to their endoskeletons. They use a word bank to identify and label the major bones, such as skull ribs, tusk, pelvis and spine. They discuss the similarities and differences between the skeletons.</p>		<p>Children examine a soil sample. They mix it with water inside a bottle, then allow it to settle. They draw and label its initial appearance, and then its appearance after several days. They discuss how it changes over time.</p>	<p>Children learn that we can classify objects as transparent, translucent or opaque depending on how light behaves when it hits them. They carry out an investigation to classify a selection of classroom objects as transparent, translucent, or opaque. They display their findings in a Venn diagram with 2 sets, one nested inside the other.</p>	<p>Children learn that magnets are made up of tiny magnetic particles which have all lined up in the same direction, producing a noticeable magnetic effect (field). They learn that magnets always contain two poles (north and south) and that if a magnet is broken in two, each piece will still have two poles. Children investigate whether the poles from two magnets will attract or repel each other when brought together. They record their results in a 2-dimensional Carroll diagram.</p>
	<p>Children learn about different seed dispersal methods evolved by plants including dispersal by gravity, by wind, by water, and by animals. They examine 6 different images of fruits and seeds and try to explain how they might be dispersed.</p>	<p>Children learn about the different types of animal skeleton - endoskeletons (skeletons on the inside), exoskeletons (skeletons on the outside), and hydro skeletons (boneless skeletons made of muscle). They cut out 15 different pictures of animals and paste them into the correct skeletal group.</p>		<p>Children learn that rocks can be placed into three categories - sedimentary, metamorphic and igneous. They examine pictures of 8 familiar rocks - chalk, diamond, sandstone, slate, granite, flint, marble and limestone - and match them to their descriptions and physical properties. They suggest potential uses for each of these rocks.</p>	<p>Children learn that shadows cast by the Sun change in length and direction during the day because of the apparent motion of the Sun across the sky (though this is really caused by the rotation of the Earth). Using a gnomon (such as a cricket wicket) and chalk, children create their own sundial on the yard. They calibrate their sundial and explain how it works.</p>	<p>Children learn that the properties of magnetic attraction and repulsion can make useful machines. They learn that more powerful magnets, called electromagnets, can be created by passing an electrical current through a coil wrapped around a permanent magnet. Children learn about 5 different machines that use magnets (a maglev train, an MRI machine, a crane, a button magnet, and a compass) and match their images to their descriptions.</p>

