

Thornborough Infant School Science Curriculum Map

	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
Reception	The human body: Facial features, body parts, the senses Seasons of the year; Autumn. Deciduous and evergreen trees. Observing leaves using magnifying glasses, leaves changing colour.	Forces: push, pull, twist Air transport Water transport Seasons of the year: Winter. Animal hibernation, why do some animals hibernate? How do other animals survive winter? Transport in the winter; snow ploughs, gritting roads, snow tyres. Changing state of matter; frost and ice-looking closely at ice, what happens when it warms? Why can we see our breath when it is cold?	Growing and changing; how people change as they grow, how animals change as they grow. Life cycles of a butterfly and/or frog. Identify and draw the following animals and their babies including but not limited to: Sheep and Lamb Cows and Calf Horse and foal Butterfly and Caterpillar Frog and tadpole Dog and puppy Cat and kitten Plants; how they grow from seeds and bulbs. What plants need to grow. Identify parts of plants including roots, stem and leaves. Identify trees and plants growing locally on the school grounds or in local parks. Draw pictures of local plants.	Our planet Earth, land and sea, plants and animals, weather, gravity. The moon, the sun, the planets in our solar system, space travel, astronauts Seasons of the year: Spring. The first signs of spring; snowdrops, cherry blossom, buds and flowers, birds nesting, bees, lighter evenings	Seasons of the Year: Summer. Signs of summer; flowers, warmer days, light evenings, butterflies, bees, birds. Design a garden for the Queen; what could we grow? What would we include? Sketch some ideas and write about the design	Seasons of the Year: Summer. How we stay safe in the sun; sunscreen, hats, sunglasses. Safety around water. Changing state of matter; Why do our ice lollies melt?
Year 1 and cycle A	Human Body A (separate) Naming parts of the body, the five senses and associated body parts, understanding sensory impairment.	Animals and their Needs (separate) Living things, naming animals, grouping animals, describing animals, how plants and animals obtain food, offspring, caring for animal babies, caring for pets.	Seasons and Weather (Cycle A) The four seasons, tools to record the weather, daily weather and weather forecasts, weather symbols, weather around the world, floods and hurricanes.	Plants (separate) What plants need to grow, the parts and functions of plants, food production, flowers and seeds, deciduous and evergreen, farming, crops, pesticides, harvest, from field to supermarket.	Taking Care of the Earth (cycle A) The Earth's natural resources, conservation of natural resources, logging, recycling, how pollution is caused and can be prevented.	Materials and Magnets (separate) Classification of materials, magnets, magnetic attraction
Year 2 and cycle B	The Human Body B (separate) The skeletal and muscular systems, exercise, digestive system and healthy eating, circulatory system, preventing illness, germs and disease, animals and their offspring.	Living Things in their Environments Habitats: rainforest, desert, meadow and underground habitats. Food chains, oceans and undersea habitats, deep ocean habitats and habitat destruction and damage.	Electricity (Cycle B) Circuits, conductive and non-conductive materials, safety rules.	Plants (separate) Seeds and bulbs, plants and water, light, temperature, healthy plants	Astronomy (Cycle B) Our solar system, orbit and rotation, sun, moon, planets, stars, constellations.	Materials and Matter (separate) Comparing materials, changing materials, concepts of atoms, matter, solids, liquids, gases, measurements.

<p>Year 1 Human Body Aut 1</p>	<p>To know our body has five senses.</p> <p>We have five senses: sight, hearing, touch (feeling), taste, smell. We use: Our eyes to see Our ears to hear Our tongues to taste Our nose to smell Our skin to feel and hands to touch (feel)</p>	<p>To know that we use our eyes to see.</p> <p>Our eyes use light that enters the eye to enable us to see. Parts of the eye and what their purpose is. (e.g. the eyelashes protect the eye). Sometimes people need help to see and can use glasses, contact lenses, telescopes, microscopes.</p>	<p>To know that sounds travel through our ears to send messages to our brain.</p> <p>Sounds travel through our ears to send messages to our brain. Sounds can be very different; some loud and some quiet. Some people need help to hear and some people cannot hear at all.</p>	<p>To know that our senses help us to understand the world around us.</p> <p>Our senses help us to understand the world around us. Our senses can warn us of danger. Our senses send messages to our brains.</p>	<p>To understand that some people have problems with their senses, such as blindness or deafness.</p> <p>Some people have problems with their senses. Helen Keller was taught to read, write and speak even though she was deaf and blind. Helen Keller helped other people who were also deaf and blind.</p>	<p>Knowledge Organiser: Blank out sections of the knowledge organiser for children to fill in. For example, leave a keyword but blank out the definition and vice versa.</p> <p>Multiple Choice Quiz: Children complete the MCQ and mark their own immediately afterwards to provide instant feedback.</p> <p>Task Label blank human body outline with information about the body and senses. (Working Scientifically - identifying and classifying)</p> <p>Misconception: that only the hands can feel.</p> <p>Short written response tasks What do we know now about our senses? Short answer questions for children to answer: • What needs to enter our eyes for us to see? • What happens to our eyes in a dark room? • How can our senses help to keep us safe? • What part of our body receives messages from our senses? (Working Scientifically - using their observations and ideas to suggest answers to questions)</p>
<p>Year 2 Human Body Aut 1</p>	<p>Animals, including humans, need air, food and water to survive.</p> <p>Animals need water, food and air to survive. When water, food or air is scarce, humans and animals suffer. When animals, including humans, have water, food and air, they can have offspring that grow into adults.</p>	<p>To know that our skeleton and our muscles help us to move</p> <p>Animals need water, food and air to survive. Our skeleton is made up of bones inside our body. Our muscles help us to move. Exercise is an important way of keeping our body healthy.</p>	<p>To understand that our bodies digest our food.</p> <p>Digestion means breaking down the food we eat. Our bodies take things we need out of the food we eat. It is important to feed our bodies with healthy foods.</p>	<p>To know that our heart pumps blood around our body</p> <p>The heart is a muscle inside our body. The heart pumps blood around our body. Our blood circulates around our body, which means it goes around and around.</p>	<p>To understand that scientists have found ways to keep us healthy</p> <p>We need to take care of our bodies through exercising, keeping clean, eating a balanced diet and resting. Germs can make us unwell. Scientists have found ways to help us stay healthy.</p>	<p>Assessment tasks</p> <p>Knowledge Organiser: Blank out sections of the knowledge organiser and check to see if children can fill in the missing information.</p> <p>Multiple Choice Quiz: Complete the MCQ and ask children to mark their own immediately.</p> <p>Written task: Children to answer the question: 'Is all food healthy?' Children sort food labels into groups of healthy and unhealthy, using the traffic light system on the labels to help them. They then write a short paragraph, explaining their answer to the assessment question.</p> <p>(Working Scientifically - identifying and classifying/gathering and recording data to answer questions) Alternative task: Design and complete a survey asking a question about keeping healthy.</p> <p>Examples: Do you always wash your hands after going to the toilet? Always, sometimes, never. How often do you eat fruit? Always, sometimes, never. How often do you run around and stretch your muscles? All of playtime, sometimes, never. Children can survey the class and then look at their results. They could use a tally chart or a bar chart to represent their results.</p>

						(Working scientifically - gathering and recording data to answer questions)
Year 1 Aut 2 Animals and their needs	<p>To name and describe common animals.</p> <p>Knowledge Goals There are many different types of animals. Some animals live in water, some live on land, some fly in the sky. Scientists group animals according to their features.</p>	<p>Scientists group animals according to their features.</p> <p>Knowledge Goals Animals can be grouped according to their features. Amphibians are cold blooded animals that live in water and also on land. They lay eggs underwater. Mammals are warm-blooded animals that give birth to live young</p>	<p>To understand that we can group animals according to what they eat.</p> <p>Knowledge Goals Animals that only eat other animals are called carnivores. Animals that only eat plants are called herbivores. Animals that eat both plants and other animals are called omnivores.</p>	<p>To describe the needs of a pet.</p> <p>Knowledge Goals Pets need food, space, shelter, medicine and company. Some animals are suitable for keeping as pets but some are not. Animals that are not pets are known as wild animals.</p>	<p>To describe an animal using scientific words.</p> <p>Knowledge Goals We can use scientific words to describe animals. Scientists observe carefully and draw detailed diagrams Fish have gills to help them breathe, fins to help them swim and scales to protect their bodies.</p>	<p>Assessment Criteria To understand what an animal is and how animals can be grouped Scientific knowledge and understanding: I can name and describe a variety of animals using scientific vocabulary I know that animals can be grouped by their features e.g. whether they are amphibians or mammals I know that animals can be grouped by what they eat e.g. herbivores, omnivores and carnivores I know that there are wild and domestic animals. Domestic animals are animals that we keep as pets and wild animals live freely without regular contact from humans Knowledge Organiser: Blank out sections of the knowledge organiser and check to see if children can fill in the missing information. Multiple Choice Quiz: Complete the MCQ and ask children to mark their own immediately. Optional Written task: Write an information text about different animals. Sorting task - provide children with pictures of animals for them to sort—see how they sort them and get them to explain their sorting in writing. Get children to answer these questions with short sentences: • What is a bird? • What is an amphibian? • What features does a fish have? • What is different between a wild animal and a pet? • What is different between a carnivore, a herbivore and an omnivore? (Working Scientifically - identifying and classifying)</p>
Year 2 Aut 2 Living things and their environments	<p>To know the differences between living, dead and never been alive.</p> <p>Knowledge Goals Living things move, grow, need air and reproduce. Dead things were once alive, but are no longer alive. Inanimate things have never lived; for example a rock.</p>	<p>To know that a habitat is the name given to a place where plants or animals live.</p> <p>Knowledge Goals A habitat is the name given to a place where plants or animals live. In a woodland habitat we might see: oak trees, ferns, mosses, beetles, foxes and squirrels. In a desert habitat we might see: camels, scorpions, rattlesnakes, cacti and tumbleweed.</p>	<p>To describe rainforests as hot and moist, and deserts as dry and hot or cold.</p> <p>Knowledge Goals To know that each habitat has plants and animals adapted to survive. Some animals and plants that might be found in rainforests are banana trees, orchids, monkeys and parrots. Deserts are very dry, whether hot or cold, and plants and</p>	<p>To name and describe animals who live in underground habitats.</p> <p>Knowledge Goals Some animals live in underground habitats. Animals that live in underground habitats include badgers, moles, foxes, rabbits and worms. These animals have adapted to living underground.</p>	<p>To know that a food chain describes 'who eats what' within a habitat</p> <p>Knowledge Goals A food chain describes 'who eats what' within a habitat. Green plants make their own food; we call these plants producers. Animals who eat plants, or other animals, are called consumers.</p>	<p>To know what a habitat is, and give examples of different habitats and how animals and plants are adapted to living in them</p> <p>Scientific knowledge and understanding:</p> <p>I can name and identify a number of plants and animals, and their habitats</p> <p>I understand that habitats provide for the basic needs of the plants and animals that live there I understand that animals and plants are well suited to their habitats</p> <p>Knowledge Organiser: Blank out sections of the knowledge organiser and check to see if children can fill in the missing information. Multiple Choice Quiz: Complete the MCQ and ask children to mark their own immediately. Working scientifically/written task: Choose from: • complete a written task describing a</p>

			animals have adapted to survive			habitat including various plants and animals that might be found in the specific habitat. (Working Scientifically - identifying and classifying) • compare and contrast two habitats, drawing simple diagrams with annotations and writing short descriptions. (Working Scientifically - identifying and classifying) • create a mini-book that includes a page of information about each different habitat. (This may need more than one lesson to complete) (Working Scientifically - identifying and classifying)
Year 1 & 2 Cycle A Spring 1	<p>To name and describe the four seasons.</p> <p>Knowledge Goals Our four seasons are spring, summer, autumn and winter. Colder weather comes in autumn and winter. Warmer weather comes in spring and summer. Our days of sunlight are longest in the summer and shortest in the winter.</p>	<p>To know that tools are used to gather information about the weather.</p> <p>Knowledge Goals A rain gauge measures how much rain has fallen. A weather vane shows which way the wind is blowing. A thermometer measures the temperature.</p>	<p>To present data using a graph.</p> <p>Knowledge Goals Data is a collection of facts. We can present data using a graph. We can interpret information from a graph, which helps us to understand the weather.</p>	<p>To know there are different types of cloud.</p> <p>Knowledge Goals Clouds are made of tiny droplets of water that float in the air. Dark clouds are carrying more water. Cirrus clouds are thin and wispy. Cumulus clouds are and fluffy like cotton wool. Stratus clouds are the lowest lying and cover the whole sky.</p>	<p>To understand that weather forecasts help people to prepare for different kinds of weather.</p> <p>Knowledge Goals A weather forecast tells us what the weather will be in the next few days. Scientists study the weather and use computers to make forecasts.</p> <p>(A scientist who studies the weather is called a meteorologist.) Weather forecasts help people to be prepared for different kinds of weather.</p> <p>Optional additional lesson: To understand that certain types of weather can be dangerous.</p> <p>Knowledge Goals Some weather can be very dangerous. A flood is an overflow of water. A hurricane is a storm with very strong winds.</p>	<p>To understand and describe the four seasons, and how to gather data about weather Specific Knowledge Goals: We have four seasons; spring, summer, autumn and winter. Our weather is warmer during the spring and summer and cooler during the autumn and winter. To know the tools used to gather data about the weather There are different types of cloud and that clouds indicate the weather we are about to experience To recognise weather symbols used in weather forecasting and explain the importance of accurate forecasts Meteorologists can study the weather and predict how it will change. Some weather can be dangerous, for flooding and hurricanes</p>
Year 1 & 2 Cycle B Electricity	<p>To identify things that use electricity.</p> <p>Knowledge Goals Many things around us use electricity to make them work. Electricity is energy that we can store or use to make things work. Electricity can be very useful but can also be dangerous.</p>	<p>To know that electricity is useful, but it can also be dangerous.</p> <p>Knowledge Goals Electricity can be very dangerous. We must use electricity safely to make sure it is not a danger to us. We can use electricity safely by not putting fingers in plug sockets, not using electrical items with wet hands and</p>	<p>To construct an electrical circuit.</p> <p>Knowledge Goals An electrical circuit is a loop that allows electricity to travel around it. An electrical circuit must have wires and a battery. If a circuit is broken, electricity will not be able to flow around it.</p>	<p>To identify materials that conduct electricity.</p> <p>Knowledge Goals Materials that allow electricity to pass through them are conductors. Materials that do not allow electricity to pass through them are insulators. Many, but not</p>	<p>Pupils should be able to:</p> <ul style="list-style-type: none"> Identify electrical appliances Explain how to ensure we are using electricity safely Know how to make a simple circuit Identify electrical conductors and insulators. Scientific Understanding: Electricity is energy that we can store or use to make things work. • An electrical circuit is a wire loop that allows electricity to travel around it. <p>Knowledge Organiser: Blank out sections of the knowledge organiser and check to see if children can fill in the missing information. Multiple Choice Quiz:</p>	

		checking that wires are not frayed.			all, metals conduct electricity	Complete the MCQ and ask children to mark their own immediately. Task: Draw a circuit with a battery, wires, bulb and a switch, using the appropriate symbols. Write an explanation about what is happening when the circuit is connected. (Working Scientifically - identifying and classifying/using their observations and ideas to suggest answers to questions/asking simple questions and recognizing that they can be answered in different ways)
Year 1 Plants Spring 2	<p>To know what plants need in order to grow.</p> <p>Knowledge Goals Plants need the right temperature, light and water to grow.</p> <p>Most plants grow from seeds. If seeds do not have the right temperature, light and water, they may not grow into healthy plants.</p>	<p>To name and describe the parts of a plant.</p> <p>Knowledge Goals The roots of a plant act as an anchor, fixing the plant into the ground. They also absorb water from the soil. The stem of a plant grows above the ground. The leaves and flowers grow from it. A plant's leaves absorb sunlight and turn it into energy that the plant uses to grow.</p>	<p>To understand that plants spread their seeds to make new plants.</p> <p>Knowledge Goals Plants spread their seeds in order to make new plants. When plants make seeds to make new plants, we call this reproducing. Plants must spread their seeds to help them grow into new plants.</p>	<p>To understand that some trees are evergreen, and some are deciduous.</p> <p>Knowledge Goals Evergreen trees keep their leaves all year around. Deciduous trees drop their leaves during autumn time and grow fresh leaves in spring time. Oak trees are deciduous and fir trees are evergreen.</p>	<p>To recognise which parts of plants we eat.</p> <p>Knowledge Goals We eat different parts of plants including the roots, stem, leaves and sometimes the flowers. Some plants are dangerous to eat and would make us ill. We need a variety of fruit and vegetables in our diet.</p>	<p>To describe some common plants, including trees.</p> <ul style="list-style-type: none"> To name and describe the purpose of parts of a plant, and what they need in order to grow. To understand that plants spread their seeds to reproduce. To understand that some trees are evergreen, and some are deciduous. • To understand that plants are grown for food and to recognise which parts of plants we eat. <p>Knowledge Organiser: Blank out sections of the knowledge organiser for children to fill in. For example, leave a key word but blank out the definition and vice versa.</p> <p>Multiple Choice Quiz: Children complete the MCQ and mark their own immediately afterwards to provide instant feedback.</p> <p>Task Create a report about plants. Include information about the different parts of plants, how seeds disperse, some plants we find in our local area, deciduous and evergreen trees and plants we eat. (scaffold as appropriate). (Working scientifically - identifying and classifying/gathering and recording data)</p>
Year 2 Plants Spring 2	<p>To know there are many different kinds of plants. There are many different kinds of plants.</p> <p>Knowledge Goals Around my school I can find plants such as: Around my school I can find trees such</p>	<p>A seed can grow into a flowering plant.</p> <p>Knowledge Goals When a seed germinates, it changes from a seed into a seedling. Some plants create bulbs that live underground, and their leaves grow up through the soil.</p>	<p>Healthy plants need light and water to grow.</p> <p>Knowledge Goals When a plant has no water, it cannot grow well. When a plant has no light, it cannot grow well. Plants often grow well in the Spring as the temperatures get warmer and there is often rain</p>		<p>To understand that plants are grown for food.</p> <p>Knowledge Goals Some plants are grown for food. Farmers grow crops for food. Crops are harvested, packaged and</p>	<p>Describe how seeds and bulbs grow into mature plants. Scientific Understanding:</p> <ul style="list-style-type: none"> To be able to observe and describe how seeds and bulbs grow into mature plants To find out and describe how plants need water, light and a suitable temperature to stay healthy. <p>Knowledge Organiser: Blank out sections of the knowledge organiser and check to</p>

	as: (complete depending on your environment)				transported for people to buy and eat.	<p>see if children can fill in the missing information.</p> <p>Multiple Choice Quiz: Complete the MCQ and ask children to mark their own immediately.</p> <p>Written Task: How do bulbs and seeds work? Scaffolded writing task - help children with the structure of their writing and help them to select which diagrams they will draw to support their writing. Structure strips could be used to help children organize their writing. Suggested structure: 1. What is a seed? What is a bulb? 2. What do bulbs and seeds need to grow? What happens if they don't have these things? 3. What can bulbs and seeds grow into? 4. Which plants can we eat? (Working Scientifically - using their observations and ideas to suggest answers to questions)</p>
<p>Year 1& 2 Taking Care of Earth Summer 1 Cycle A</p>	<p>To describe different ways that we damage the Earth.</p> <p>Knowledge Goals Humans do things that can damage the Earth. People are causing pollution that is damaging our earth.</p> <p>When forests are cut down, the wild animals' environment is lost.</p> <p>Resources are the things in the world we can make use of.</p>	<p>To know that there are natural and manufactured resources that people on Earth use.</p> <p>Knowledge Goals A natural resource is something that is found in nature that people can use.</p> <p>A manufactured resource is something people have created to use. Some natural resources cannot be easily replaced: they are non-renewable. Other natural resources can be replaced: they are renewable.</p>	<p>To identify logging as a way of harvesting the Earth's natural resources.</p> <p>Knowledge Goals Trees are a natural resource that people can use for paper, furniture and other uses.</p> <p>Logging means cutting down trees. Logging can cause damage to the environment.</p>	<p>To know that people create pollution which can harm the environment.</p> <p>Knowledge Goals Pollution occurs when an environment is damaged by waste.</p> <p>Pollution is caused by things that people do, for example driving a car.</p> <p>We can reduce the amount of pollution we create</p>	<p>To know that recycling means turning used things into something new.</p> <p>Knowledge Goals When something used is reused for a new purpose, it is recycled.</p> <p>We recycle items to reduce waste.</p> <p>The following things that we may find in our homes can be recycled: newspapers, letters, magazines, plastic bottles, drinks cans, food tins, cardboard boxes, glass jars.</p>	<p>To describe different ways we can take care of the Earth. Specific</p> <p>Knowledge Goals: • To know that there are natural and man-made resources. Some resources are renewable and some are non-renewable. • To know that logging means cutting down trees. • To identify some of the ways in which the environment can be polluted and how we can reduce pollution.</p> <p>Knowledge Organiser: Blank out sections of the knowledge organiser for children to fill in. For example, leave a key word but blank out the definition and vice versa. Multiple Choice Quiz: Children complete the MCQ and mark their own immediately afterwards to provide instant feedback.</p> <p>Extended Writing Task: 'How can we care for the earth?' Provide a writing scaffold and/or images to support children. Encourage children to look back in their books and remember the ways in which people use the earth's resources and how we can take care of the earth. (Working Scientifically - asking simple questions/using their observations and ideas to suggest answers to questions)</p>
<p>Year 1& 2 Astronomy Summer 1</p>	<p>To know there are eight planets in our solar system.</p> <p>Knowledge Goals</p>	<p>To know that Earth travels around the Sun. Planets travel around the Sun.</p> <p>Knowledge Goals</p>	<p>To know that the Moon orbits the Earth.</p> <p>Knowledge Goals</p>	<p>To know that groups of stars are called constellations.</p> <p>Knowledge Goals</p>	<p>Scientists, including astronomers, learn from each other to make new discoveries about space</p>	<p>To show understanding of our Solar System.</p> <p>• To know about the planets in our solar system.</p>

<p>Cycle B</p>	<p>The Sun is a star at the centre of our solar system.</p> <p>There are eight planets in our solar system. The planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.</p>	<p>We call this journey an orbit. As the planets orbit the Sun, they also spin around.</p> <p>We call this rotation. Night and day occur due to the Earth rotating.</p>	<p>The Moon orbits the Earth.</p> <p>The Moon reflects the light of the Sun. As the Moon's position changes, we can see different parts of it.</p>	<p>A constellation is a group of stars that, when seen from Earth, form a pattern.</p> <p>People have given constellations names and have told stories that imagine how the constellations were formed.</p> <p>Astronomers have studied the stars for many years, learning from each other and making new discoveries</p>	<p>Knowledge Goals Scientists, including astronomers, study space to find out more about what lies beyond our planet.</p> <p>The International Space Station orbits earth and allows scientists to find out more about space. Scientists have sent a rover to Mars to look for signs of life long ago.</p>	<ul style="list-style-type: none"> To know that Earth travels around the sun. To know that the moon orbits the earth. To be able to describe and name some constellations. To know that scientists explore space. <p>Knowledge Organiser: Blank out sections of the knowledge organiser for children to fill in. For example, leave a key word but blank out the definition and vice versa.</p> <p>Multiple Choice Quiz: Children complete the MCQ as a class or individually. Then, mark them immediately afterwards to provide instant feedback.</p> <p>Extended writing task: What do scientists know about our Solar System? Include a labelled diagram of the Solar System in your answer. Suggested structure: 1. The planets in our solar system (name, order) 2. Our moon (Its orbit, its phases) 3. Stars (Our sun, constellations) 4. Space Exploration (The ISS and the Mission to Mars) 5. Conclusion - scientists are still learning from each other and making discoveries about outer space (Working Scientifically - identifying and classifying/asking simple questions)</p>
<p>Year 1 Materials and magnets Summer 2</p>	<p>To recognise everyday materials.</p> <p>Knowledge Goals Objects all around us are made from types of materials.</p> <p>Some everyday materials that objects are made from include wood, plastic, glass and metal.</p> <p>Each material can be used to make many different things. For example, plastic can be made into cups, plates, toys, chairs.</p>	<p>To identify the properties of materials.</p> <p>Knowledge Goals Properties of materials are things we can measure, see or feel.</p> <p>We can describe and compare properties of different materials.</p> <p>Materials have different properties that make them useful for different tasks.</p>	<p>To explain why materials are chosen for specific tasks.</p> <p>Knowledge Goals Materials have different properties that make them useful for different tasks.</p> <p>When designing or making objects, materials are chosen for their properties.</p> <p>Some materials will be better suited to certain purposes than others.</p>	<p>To understand that materials can be sorted according to whether they are or are not attracted to magnets.</p> <p>Knowledge Goals Certain materials are attracted to magnets.</p> <p>We cannot see the force of magnetism.</p> <p>Magnets can be useful, for example in toys or around the home.</p>	<p>To investigate which material would be most suitable for (insert purpose).</p> <p>Knowledge Goals An investigation helps us to find out the best answer.</p> <p>When we investigate something, we need to make sure our investigation is fair.</p> <p>Scientists investigate things carefully and fairly to find answers to their questions.</p>	<p>I know the properties of some materials and some facts about magnets.</p> <ul style="list-style-type: none"> Materials have different properties. Magnetism is a force we cannot see. Materials, including magnets, have different uses around the home and in everyday life. <p>Knowledge Organiser: Blank out sections of the knowledge organiser for children to fill in. For example, leave a key word but blank out the definition and vice versa.</p> <p>Multiple Choice Quiz: Children complete the MCQ and mark their own immediately afterwards to provide instant feedback.</p> <p>Task Which materials would be needed to build a playground? Show some images of playground equipment (e.g. slide, trampoline, climbing frame, magnetic gate latch etc.) Discuss which materials have been used to make this equipment and why. Give children a plan of a playground that they can add to. Children must label the materials needed for each part of the playground. Then write why each material is useful, e.g. I need plastic for the slide because it is smooth, waterproof and can be shaped easily. Wood would not be so useful for a slide because children could</p>

						<p>get splinters from it. (Working Scientifically - using their observations to suggest answers to questions/ identifying and classifying)</p>
<p>Year 2 Materials and Matter Summer 2</p>	<p>To know that materials have specific uses based on their properties.</p> <p>Knowledge Goals Everyday materials include wood, metal, plastic, glass, brick, rock, paper and cardboard.</p> <p>Every material has its own properties - these can include being hard, soft, opaque, shiny, bendy.</p> <p>Materials are used for a purpose depending on their properties.</p>	<p>To know that inventors think carefully about materials and their properties.</p> <p>Knowledge Goals Inventors need to think about the best materials to use for their inventions.</p> <p>Scientists and engineers can work for many years on a project before they have success. Velcro was made to help join two fabrics together.</p>	<p>To know that scientists use microscopes to see very small things around us.</p> <p>Knowledge Goals Scientists use a microscope to look closely at very small things.</p> <p>Sometimes, materials look very different when we look at them using a microscope.</p> <p>Everything around us is made from tiny building blocks we cannot see called particles.</p>	<p>To know that the shapes of solid objects made from some materials can be changed.</p> <p>Knowledge Goals Solids have a definite shape.</p> <p>The shape of some solids can be changed by squashing, bending, twisting and stretching.</p> <p>The particles in a solid are tightly packed together and have a strong bond.</p>	<p>To understand that water can be a solid and can also be a liquid.</p> <p>Knowledge Goals Liquids can be poured.</p> <p>The shape of a liquid depends on the container it is being held in.</p> <p>Water can be a solid and can also be a liquid.</p>	<p>To be able to describe different materials and their properties.</p> <ul style="list-style-type: none"> The materials used around us have different properties. Solids have a definite shape, we can change the shape of some solids by bending and squashing. Liquids flow freely. <p>Knowledge Organiser: Blank out sections of the knowledge organiser and check to see if children can fill in the missing information.</p> <p>Multiple Choice Quiz: Complete the MCQ.</p> <p>Task: Design a garden for your school with a water feature and a seating area. Show children some images to give them some ideas. (Particularly of water features if they are unfamiliar with this) Label your design. Tell them the materials they have available are cardboard, wood, metal, plastic, glass, brick, rock and paper. What materials will you use? Will you need to change the shape of those materials? What will the seating area be made from? What will the paths be made from? Thinking about the water feature: where will the water flow?</p> <p>This task has been designed to encourage children to think about materials and their properties, and also how liquids behave. Scaffold with ideas and images as appropriate. (Working Scientifically - using their observations and ideas to suggest answers to questions)</p>

Working Scientifically KS1
Thornborough Infant School - National Curriculum Coverage

	Human Body	Animals and their Needs	Seasons and Weather	Taking Care of the Earth	Plants	Materials and Magnets	The Human Body	Living Things and their Environments	Electricity	Plants	Materials and Matter	Astronomy
Statutory												
asking simple questions and recognising that they can be answered in different ways			✓		✓	✓	✓	✓		✓		✓
observing closely, using simple equipment	✓		✓		✓					✓	✓	✓
performing simple tests	✓				✓					✓	✓	✓
identifying and classifying	✓	✓		✓		✓		✓				✓
using their observations and ideas to suggest answers to questions		✓	✓		✓					✓	✓	✓
gathering and recording data to help in answering questions			✓		✓	✓				✓	✓	✓
Notes and guidance												
use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships		✓			✓	✓						✓
ask people questions and use simple secondary sources to find answers	✓			✓			✓		✓			
use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out			✓		✓					✓	✓	✓
record and communicate their findings in a range of ways and begin to use simple scientific language (with help)		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓