

CHERBOURG PRIMARY SCHOOL



Science

Knowledge and Skills Year R to Year 6

At Cherbourg Primary School, we believe that science enables children to make sense of the world around them. Our science curriculum is designed to develop curious, knowledgeable and confident learners who understand the scientific concepts that explain the natural and physical world, while equipping them with the skills to think and work like scientists.

Our curriculum carefully builds both **substantive knowledge**—the scientific facts, concepts and vocabulary children need to know—and **disciplinary knowledge**—the processes of scientific enquiry that enable children to investigate, question and evaluate the world around them. Through revisiting and connecting key scientific ideas over time, children develop a secure understanding of biology, chemistry and physics, enabling them to make meaningful links between their learning and everyday life.

Working scientifically is woven throughout every area of the curriculum. Children learn to ask thoughtful questions, make hypotheses, plan and carry out investigations, observe changes over time, identify patterns, classify and group, use evidence to answer questions and communicate their findings using appropriate scientific language. They are encouraged to think critically, evaluate the reliability of evidence and explain their conclusions using scientific reasoning.

High-quality teaching ensures that scientific knowledge is taught progressively and remembered over time through retrieval practice, purposeful practical experiences and carefully sequenced learning. Scientific vocabulary is explicitly taught and consistently revisited so that children develop the confidence to communicate their ideas accurately and precisely.

By the time children leave Cherbourg Primary School, they will have developed a secure understanding of key scientific concepts, an appreciation of how science helps us understand and improve the world around us, and the curiosity, resilience and enquiry skills needed to continue exploring and questioning throughout their lives.

Jade Scales (Science Leader), July 2026

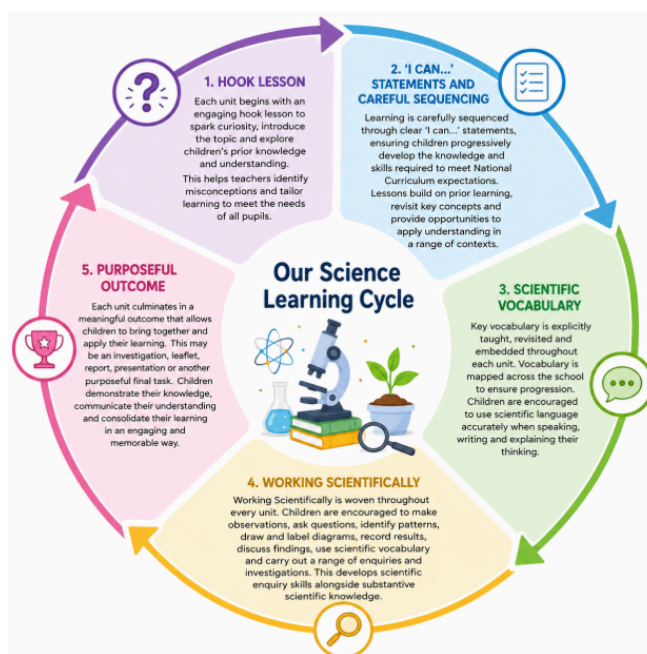
Each science unit begins with an engaging **hook lesson** designed to spark curiosity, introduce the new topic and explore children's prior knowledge and understanding. This enables teachers to identify misconceptions, build on existing knowledge and tailor learning to meet the needs of all pupils.

Across the half term, learning is carefully sequenced through clear **'I can...' statements**, ensuring that children progressively develop the knowledge and skills required to confidently meet the expectations of the National Curriculum. Lessons are planned to build on prior learning, revisit key concepts and provide opportunities for children to apply their understanding in a range of contexts.

Key **scientific vocabulary** is explicitly taught, revisited and embedded throughout each unit. Vocabulary is carefully mapped across the school to ensure progression, allowing children to build on prior knowledge year after year. Children are encouraged to use scientific language accurately when speaking, writing and explaining their thinking, ensuring they develop the confidence to communicate as young scientists. By the end of each unit, pupils have secured the knowledge and vocabulary needed to access the next stage of their scientific learning.

Working Scientifically is woven throughout every unit rather than being taught in isolation. Children are regularly encouraged to make careful observations, ask questions, identify patterns, draw and label diagrams, record results, discuss findings, use scientific vocabulary and carry out a range of enquiries and investigations. This ensures that scientific enquiry skills are developed alongside substantive scientific knowledge.

Each unit culminates in a purposeful **outcome** that allows children to bring together and apply everything they have learned. This may take the form of a scientific investigation, information leaflet, report, presentation or another meaningful final task. These outcomes provide opportunities for children to demonstrate their knowledge, communicate their understanding and consolidate their learning in an engaging and memorable way. Through this carefully sequenced approach, children leave each unit with the knowledge, skills and vocabulary required to be successful in their future science learning.



Year R						
EYFS framework	Working Scientifically	Plants	Animals including Humans	Living things and their habitats	Everyday materials	Seasonal changes
<p>Understanding the World: The Natural World Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>Knowledge The world around them can be explored using their senses.</p> <p>Observations help us notice changes and similarities.</p> <p>Questions can help us find out more about the world.</p> <p>Scientific vocabulary can be used to describe what they see, hear, feel, smell and taste.</p> <p>Pictures, marks, models and talk can be used to record ideas and findings.</p> <p>Skills Explore the world using their senses.</p> <p>Make observations of plants, animals,</p>	<p>Knowledge Plants are living things. Plants need water and light to grow.</p> <p>Different plants look different.</p> <p>Some plants grow from seeds and bulbs. Plants change over time.</p> <p>Skills Identify familiar plants and flowers.</p> <p>Explore plants in the outdoor environment.</p> <p>Name basic parts of a plant including flower, leaf, stem and root.</p> <p>Plant seeds and bulbs.</p> <p>Observe and talk about changes in growing plants.</p>	<p>Knowledge Animals are living things.</p> <p>Humans and animals have similarities and differences.</p> <p>Animals and humans need food, water and sleep.</p> <p>Different animals live in different places.</p> <p>Humans grow and change over time.</p> <p>Good hygiene, exercise and healthy food help keep us healthy.</p> <p>Skills Identify familiar animals.</p> <p>Name basic body parts in humans and animals.</p>	<p>Knowledge Living things live in habitats.</p> <p>Different habitats provide what animals and plants need.</p> <p>Some environments are different from where they live.</p> <p>Living things depend on their environment.</p> <p>Skills Explore outdoor habitats such as gardens and woodland areas.</p> <p>Identify living and non-living things.</p> <p>Talk about where animals and plants live.</p> <p>Compare habitats.</p>	<p>Knowledge Objects are made from different materials.</p> <p>Materials have different properties.</p> <p>Materials can change.</p> <p>Some changes happen when heating and cooling materials.</p> <p>Skills Explore materials using their senses.</p> <p>Name common materials such as wood, plastic, metal and fabric.</p> <p>Describe simple properties including hard, soft, rough and smooth.</p>	<p>Knowledge There are four seasons: autumn, winter, spring and summer.</p> <p>Weather changes across the seasons.</p> <p>Plants, animals and humans respond to seasonal changes.</p> <p>Day length and temperature can change throughout the year.</p> <p>Skills Observe seasonal changes in the environment.</p> <p>Describe weather using simple vocabulary.</p> <p>Notice changes in trees, plants and temperature.</p>

	<p>materials and seasonal changes.</p> <p>Ask simple questions about the world around them.</p> <p>Use simple scientific vocabulary to describe what they notice.</p> <p>Compare objects, living things and environments.</p> <p>Sort and group using simple criteria.</p> <p>Notice changes over time.</p> <p>Describe similarities and differences.</p> <p>Record findings through drawings, labels, models and discussion.</p> <p>Share ideas and explain observations with others.</p>	<p>Compare different plants.</p> <p>Use vocabulary to describe plant growth and appearance.</p> <p>Explain what plants need to grow.</p> <p>Notice how plants change as they grow.</p> <p>Record observations through drawings, labels, photographs and discussion.</p> <p>Vocabulary plant, flower, leaf, stem, root, seed, bulb, grow, water, light</p>	<p>Talk about pets and animals they know.</p> <p>Describe how animals move.</p> <p>Compare different animals.</p> <p>Group animals using simple features.</p> <p>Talk about what animals and humans need to survive.</p> <p>Discuss healthy foods and healthy habits.</p> <p>Describe similarities and differences between humans and animals.</p> <p>Observe changes in humans and animals over time.</p> <p>Explain simple ways to stay healthy.</p> <p>Vocabulary animal, human, body, healthy, food, water, sleep,</p>	<p>Talk about where different animals and plants live.</p> <p>Observe minibeads and small creatures.</p> <p>Discuss how habitats meet the needs of living things.</p> <p>Compare local habitats with contrasting environments from stories and non-fiction texts.</p> <p>Describe similarities and differences between habitats.</p> <p>Explain simple ways to care for living things and the environment.</p> <p>Record observations using drawings, maps, photographs and discussion.</p> <p>Vocabulary</p>	<p>Compare and sort materials.</p> <p>Explore how different materials behave when used in water.</p> <p>Talk about why objects are made from certain materials.</p> <p>Observe changes in materials such as melting ice or cooking.</p> <p>Describe changes using vocabulary such as melt, freeze, hard and soft.</p> <p>Talk about the different uses of materials they encounter.</p> <p>Record observations through pictures and discussion.</p> <p>Vocabulary material, wood, plastic, metal, fabric, hard, soft, rough, smooth, melt, freeze</p>	<p>Talk about suitable clothing for different weather.</p> <p>Compare seasonal weather.</p> <p>Observe changes in plants and animals across the year.</p> <p>Begin to recognise patterns in seasonal change.</p> <p>Identify features of all four seasons.</p> <p>Talk about how environments change throughout the year.</p> <p>Use observations to discuss how living things change with the seasons.</p> <p>Vocabulary season, weather, autumn, winter, spring, summer, rain, sun, cold, warm</p>
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	<p>Talk about what they have found out through exploration and observation.</p> <p>Vocabulary observe, senses, notice, explore, question, compare, change, same, different</p>		<p>exercise, grow, change</p>	<p>living, non-living, habitat, environment, minibeast, woodland, garden, care</p>		
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KS1	Year 1		
National Curriculum	New Vocabulary	Sticky Knowledge 'I can...'	Skills (Disciplinary)
Working Scientifically 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.			
Plants 1. Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees 2. Identify and describe the basic structure of a variety of common flowering plants, including trees.	plant tree flower leaf root stem evergreen deciduous	1. I can identify common wild plants. I can identify common garden plants. I can identify common deciduous trees. I can identify common evergreen trees. I can name common wild and garden plants. I can name common deciduous and evergreen trees. 2. I can identify the basic parts of a flowering plant. I can identify the basic parts of a tree. I can name the roots, stem, trunk, branches, leaves and flower. I can describe the basic structure of a flowering plant. I can describe the basic structure of a tree.	
Animals including Humans (Broken down into 2 parts) 1. identify and name a variety of common animals including fish,	animal fish amphibian reptile bird	1. I can identify common fish. I can identify common amphibians. I can identify common reptiles.	

<p>amphibians, reptiles, birds and mammals.</p> <p>2. Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>3. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>4. Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p>	<p>mammal</p> <p>carnivore</p> <p>herbivore</p> <p>omnivore</p> <p>sight</p> <p>hearing</p> <p>smell</p> <p>taste</p> <p>touch</p>	<p>I can identify common birds.</p> <p>I can identify common mammals.</p> <p>I can name common fish, amphibians, reptiles, birds and mammals.</p> <p>2.</p> <p>I can identify animals that are carnivores.</p> <p>I can identify animals that are herbivores.</p> <p>I can identify animals that are omnivores.</p> <p>I can name some carnivores, herbivores and omnivores.</p> <p>3.</p> <p>I can identify the main body parts of different animals.</p> <p>I can describe the basic structure of different animals.</p> <p>I can compare the body structures of different animals.</p> <p>4.</p> <p>I can identify the basic parts of the human body.</p> <p>I can name the basic parts of the human body.</p> <p>I can draw and label the basic parts of the human body.</p> <p>I can identify the five senses.</p> <p>I can match each sense to the correct part of the body.</p>	
<p>Everyday materials</p> <p>1. distinguish between an object and the material from which it is made</p> <p>2. identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p>	<p>Properties</p> <p>Metal</p> <p>Rock</p> <p>Fabric</p> <p>Wood</p> <p>Plastic</p> <p>Ceramic</p> <p>Suitable</p>	<p>1.</p> <p>I can identify an object.</p> <p>I can identify the material an object is made from.</p> <p>I can tell the difference between an object and the material it is made from.</p> <p>2.</p>	

<p>3. describe the simple physical properties of a variety of everyday materials</p> <p>4. compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>Purpose</p> <p>hard</p> <p>soft</p> <p>rough</p> <p>smooth</p> <p>shiny</p> <p>dull</p> <p>bendy</p> <p>stiff</p>	<p>I can identify everyday materials.</p> <p>I can name everyday materials.</p> <p>I can identify and name wood, plastic, glass, metal, water and rock.</p> <p>3.</p> <p>I can describe the simple physical properties of everyday materials.</p> <p>I can compare everyday materials using their properties.</p> <p>4.</p> <p>I can compare everyday materials.</p> <p>I can group everyday materials by their simple physical properties.</p> <p>I can explain how I have grouped everyday materials</p>	
<p>Seasonal changes</p> <p>1. observe changes across the four seasons observe</p> <p>2. Describe weather associated with the seasons and how day length varies</p>	<p>spring</p> <p>summer</p> <p>autumn</p> <p>winter</p> <p>hibernating</p> <p>migration</p> <p>evergreen Trees</p> <p>deciduous</p>	<p>1.</p> <p>I can identify the four seasons.</p> <p>I can observe changes that happen in each season.</p> <p>I can describe how the world around me changes in different seasons.</p> <p>2.</p> <p>I can observe different types of weather.</p> <p>I can describe the weather in different seasons.</p> <p>I can observe that the length of the day changes across the year.</p> <p>I can describe that some days are longer and some days are shorter.</p>	

KS1	Year 2		
National Curriculum	New Vocabulary	Sticky Knowledge 'I can...'	Skills (Disciplinary)
Working Scientifically 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.			
Plants 1. observe and describe how seeds and bulbs grow into mature plants 2. find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	plant seed bulb grow growth mature plant water light temperature healthy root stem leaf flower	1. I can identify a seed and a bulb. I can observe how seeds grow into mature plants. I can observe how bulbs grow into mature plants. I can describe how seeds and bulbs grow into mature plants. 2. I can identify what plants need to grow. I can describe why plants need water. I can describe why plants need light. I can describe why plants need a suitable temperature. I can describe what happens if a plant does not have what it needs to grow and stay healthy.	
Living Things and their habitats	living dead	1. I can identify things that are living.	

<ol style="list-style-type: none"> 1. explore and compare the differences between things that are living, dead, and things that have never been alive 2. identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other 3. identify and name a variety of plants and animals in their habitats, including microhabitats 4. describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. 	<p>never been alive habitat microhabitat food chain food source of food plant animal carnivore herbivore omnivore consumer producer predator</p>	<p>I can identify things that are dead. I can identify things that have never been alive. I can compare living, dead and never been alive.</p> <p>2. I can identify different habitats. I can describe how a habitat meets the basic needs of plants and animals. I can identify plants and animals that live in different habitats. I can describe how plants and animals depend on each other in a habitat.</p> <p>3. I can identify different habitats. I can identify different microhabitats. I can name plants and animals that live in different habitats. I can name plants and animals that live in microhabitats.</p> <p>4. I can describe a simple food chain. I can identify where animals get their food. I can identify that animals eat plants, other animals or both. I can identify different sources of food for animals.</p>	
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<p>Everyday Materials</p> <ol style="list-style-type: none"> 1. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. 2. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<p>changed physical force absorb crumbly property drag suitable strongest flexible</p>	<ol style="list-style-type: none"> 1. I can identify a range of everyday materials. I can describe some simple properties of everyday materials. I can compare different everyday materials. I can choose a suitable material for a particular purpose. I can explain why a material is suitable for its use using its properties. 2. I can identify materials that can change shape. I can change the shape of some materials by squashing, bending, twisting or stretching. I can describe how the shape of a material has changed. I can compare materials that can and cannot be changed in these ways. 	
<p>Animals, including humans</p> <ol style="list-style-type: none"> 1. notice that animals, including humans, have offspring which grow into adults 2. find out about and describe the basic needs of animals, including humans, for survival (water, food and air) 3. describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 	<p>animal human offspring grow adult survival food water air exercise healthy hygiene</p>	<ol style="list-style-type: none"> 1. I can identify that animals have offspring. I can identify that humans have offspring. I can describe how offspring grow into adults. 2. I can identify the basic needs of animals for survival. I can identify the basic needs of humans for survival. I can describe why animals and humans need food, water and air. 3. I can describe why exercise is important. 	

LKS2	Year 3		
National Curriculum	New Vocabulary	Sticky Knowledge 'I can...'	Skills (Disciplinary)
Working Scientifically Asking relevant questions and using different types of scientific enquiries to answer them. Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to answer questions or to support their findings.			
Plants	root	1.	

<ol style="list-style-type: none"> 1. identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 2. 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 3. investigate the way in which water is transported within plants 4. explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 	stem trunk leaf flower function air light water nutrients soil room to grow transport pollination fertilisation seed formation seed dispersal	<p>I can identify the roots, stem, leaves and flowers of a flowering plant.</p> <p>I can identify the trunk of a tree.</p> <p>I can describe the function of the roots.</p> <p>I can describe the function of the stem or trunk.</p> <p>I can describe the function of the leaves.</p> <p>I can describe the function of the flowers.</p> <p>2.</p> <p>I can identify what plants need for life and growth.</p> <p>I can describe why plants need air.</p> <p>I can describe why plants need light.</p> <p>I can describe why plants need water.</p> <p>I can describe why plants need nutrients from the soil.</p> <p>I can describe why plants need room to grow.</p> <p>I can identify that different plants have different requirements for growth.</p> <p>3.</p> <p>I can investigate how water moves through a plant.</p> <p>I can describe how water is transported within a plant.</p> <p>4.</p> <p>I can identify that flowers are part of the life cycle of a flowering plant.</p> <p>I can describe what pollination is.</p> <p>I can describe how seeds are formed.</p> <p>I can describe different ways seeds are dispersed.</p>	
Rocks <ol style="list-style-type: none"> 1. compare and group together different kinds of rocks on the basis of their appearance and simple physical properties 	rock natural physical properties fossil fossilisation soil	<p>1.</p> <p>I can identify different types of rocks.</p> <p>I can compare rocks by their appearance.</p> <p>I can compare rocks by their simple physical properties.</p> <p>I can group rocks based on their appearance and physical properties.</p>	

<p>2. describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>3. recognise that soils are made from rocks and organic matter.</p>	<p>organic matter igneous, sedimentary and metamorphic rocks permeable and impermeable</p>	<p>2. I can identify a fossil. I can describe how fossils are formed. I can identify that fossils are formed from things that were once living.</p> <p>3. I can identify that soil is made from rocks. I can identify that soil contains organic matter. I can describe what soil is made from.</p>	
<p>Light</p> <p>1. recognise that they need light in order to see things and that dark is the absence of light</p> <p>2. notice that light is reflected from surfaces</p> <p>3. recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>4. recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>5. find patterns in the way that the size of shadows change.</p>	<p>light light source dark reflection reflect shadow opaque Sun protect</p>	<p>1. I can identify that I need light to see things. I can identify that darkness is the absence of light. I can compare places that are light and dark.</p> <p>2. I can identify that light is reflected from surfaces. I can identify some surfaces that reflect light.</p> <p>3. I can identify that light from the Sun can damage my eyes. I can describe ways to protect my eyes from the Sun.</p> <p>4. I can identify a light source. I can identify an opaque object. I can describe how a shadow is formed.</p> <p>5. I can observe how the size of a shadow changes. I can identify patterns in how shadows change size. I can describe how shadows change when the position of the light source or object changes.</p>	

<p>Forces and Magnets</p> <ol style="list-style-type: none"> 1. compare how things move on different surfaces 2. notice that some forces need contact between two objects, but magnetic forces can act at a distance 3. observe how magnets attract or repel each other and attract some materials and not others 4. compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials 5. describe magnets as having two poles 6. predict whether two magnets will attract or repel each other, depending on which poles are facing 	<p>force contact force magnetic force magnet magnetic non-magnetic attract repel pole north pole south pole surface compare group</p>	<ol style="list-style-type: none"> 1. I can compare how objects move on different surfaces. I can describe how different surfaces affect the movement of an object. 2. I can identify a contact force. I can identify that magnetic forces act without objects touching. I can compare contact forces and magnetic forces. 3. I can identify that magnets can attract each other. I can identify that magnets can repel each other. I can identify materials that are attracted to magnets. I can identify materials that are not attracted to magnets. 4. I can test whether a material is magnetic. I can compare materials based on whether they are attracted to a magnet. I can group materials into magnetic and non-magnetic. I can identify some magnetic materials. 5. I can identify that a magnet has two poles. I can identify the north pole and the south pole of a magnet. 6. I can identify when two magnets will attract each other. I can identify when two magnets will repel each other. I can predict whether two magnets will attract or repel based on the poles that are facing. 	
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<p>Animals Including Humans</p> <ol style="list-style-type: none"> 1. 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. 2. identify that humans and some other animals have skeletons and muscles for support, protection and movement. 	<p> nutrition nutrients healthy diet balanced diet food energy skeleton bone skull ribs spine (backbone) muscles support protection movement </p>	<ol style="list-style-type: none"> 1. I can explain that animals, including humans, need nutrition to stay healthy. I can identify the different types of food needed for a healthy diet. I can explain that humans cannot make their own food. I can explain that animals get nutrition from the food they eat. 2. I can identify that humans have a skeleton. I can identify that some animals have skeletons. I can explain that skeletons support the body. I can explain that skeletons protect important organs. I can explain that muscles help the body to move. 	
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LKS2	Year 4		
National Curriculum	New Vocabulary	Sticky Knowledge 'I can...'	Skills (Disciplinary)
<p>Working Scientifically</p> <p>Asking relevant questions and using different types of scientific enquiries to answer them.</p> <p>Setting up simple practical enquiries, comparative and fair tests.</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p> <p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>			

Identifying differences, similarities or changes related to simple scientific ideas and processes. Using straightforward scientific evidence to answer questions or to support their findings.			
Animals including humans <ol style="list-style-type: none"> describe the simple functions of the basic parts of the digestive system in humans identify the different types of teeth in humans and their simple functions construct and interpret a variety of food chains, identifying producers, predators and prey. 	digestive system digestion mouth oesophagus stomach small intestine large intestine rectum anus incisor canine premolar molar food chain producer predator prey	<ol style="list-style-type: none"> I can identify the main parts of the human digestive system. I can describe the function of the mouth. I can describe the function of the oesophagus. I can describe the function of the stomach. I can describe the function of the small intestine. I can describe the function of the large intestine. I can describe the function of the rectum and anus. I can describe the journey food takes through the digestive system. I can identify the different types of human teeth. I can name the incisor, canine, premolar and molar teeth. I can describe the function of each type of tooth. I can construct a simple food chain. I can interpret a food chain. I can identify the producer in a food chain. I can identify the predator in a food chain. I can identify the prey in a food chain. 	
States of Matter <ol style="list-style-type: none"> compare and group 	solid liquid	<ol style="list-style-type: none"> I can identify whether a material is a solid, liquid or gas. 	-

<p>materials together, according to whether they are solids, liquids or gases</p> <p>2. observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</p> <p>3. identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>gas</p> <p>state of matter</p> <p>change of state</p> <p>melting</p> <p>freezing</p> <p>heating</p> <p>cooling</p> <p>temperature</p> <p>degrees Celsius (°C)</p> <p>thermometer</p> <p>evaporation</p> <p>condensation</p> <p>water cycle</p>	<p>I can compare solids, liquids and gases.</p> <p>I can group materials as solids, liquids or gases.</p> <p>2.</p> <p>I can observe that some materials change state when they are heated.</p> <p>I can observe that some materials change state when they are cooled.</p> <p>I can identify melting and freezing as changes of state.</p> <p>I can measure temperature using degrees Celsius (°C).</p> <p>I can use observations or research to find the temperature at which a material changes state.</p> <p>3.</p> <p>I can identify evaporation as part of the water cycle.</p> <p>I can identify condensation as part of the water cycle.</p> <p>I can describe the stages of the water cycle.</p> <p>I can explain that increasing the temperature increases the rate of evaporation.</p>	
<p>Sound</p> <p>1. identify how sounds are made, associating some of them with something vibrating</p> <p>2. recognise that vibrations from sounds travel through a medium to the ear</p> <p>3. find patterns between the pitch of a sound and features of the object that produced it</p> <p>4. find patterns between the volume of a sound and the</p>	<p>sound</p> <p>vibration</p> <p>vibrate</p> <p>sound source</p> <p>medium</p> <p>pitch</p> <p>volume</p> <p>ear</p> <p>distance</p>	<p>1.</p> <p>I can identify that sounds are made when objects vibrate.</p> <p>I can identify objects that vibrate to make a sound.</p> <p>I can describe the link between vibrations and sound.</p> <p>2.</p> <p>I can identify that sound travels through a medium.</p> <p>I can identify that vibrations travel to the ear.</p> <p>I can describe how sound reaches the ear.</p> <p>3.</p> <p>I can compare the pitch of different sounds.</p>	

<p>strength of the vibrations that produced it</p> <p>5. recognise that sounds get fainter as the distance from the sound source increases.</p>		<p>I can identify patterns between the pitch of a sound and the object making it.</p> <p>I can describe how changing an object changes the pitch it produces.</p> <p>4.</p> <p>I can compare the volume of different sounds.</p> <p>I can identify patterns between the volume of a sound and the strength of the vibrations.</p> <p>I can describe how changing the strength of a vibration changes the volume of a sound.</p> <p>5.</p> <p>I can observe that sounds become quieter as I move further away from the sound source.</p> <p>I can identify patterns between distance and the loudness of a sound.</p> <p>I can describe how distance affects how well a sound can be heard.</p>	
<p>Electricity</p> <p>1. identify common appliances that run on electricity</p> <p>2. construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>3. identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p>	<p>electricity</p> <p>electrical appliance</p> <p>electrical circuit</p> <p>series circuit</p> <p>cell</p> <p>battery</p> <p>wire</p> <p>bulb (lamp)</p> <p>buzzer</p> <p>switch</p> <p>complete circuit</p> <p>incomplete circuit</p> <p>loop</p> <p>conductor</p>	<p>1.</p> <p>I can identify common appliances that use electricity.</p> <p>I can name appliances that run on electricity.</p> <p>2.</p> <p>I can construct a simple series electrical circuit.</p> <p>I can identify the basic parts of a simple electrical circuit.</p> <p>I can name the cells, wires, bulb, switch and buzzer in a circuit.</p> <p>3.</p> <p>I can identify whether a circuit is complete.</p> <p>I can identify whether a circuit is incomplete.</p>	

<p>4. recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>5. recognise some common conductors and insulators, and associate metals with being good conductors.</p>	insulator	<p>I can predict whether a bulb will light in a simple series circuit.</p> <p>I can explain that a bulb will only light when there is a complete loop.</p> <p>4.</p> <p>I can identify whether a switch is open or closed.</p> <p>I can describe what happens when a switch opens a circuit.</p> <p>I can describe what happens when a switch closes a circuit.</p> <p>I can explain why a bulb lights when the switch is closed.</p> <p>5.</p> <p>I can identify materials that are electrical conductors.</p> <p>I can identify materials that are electrical insulators.</p> <p>I can identify that metals are good electrical conductors.</p> <p>I can compare materials based on whether they conduct electricity.</p>	
<p>Living Things and their habitats</p> <p>1. recognise that living things can be grouped in a variety of ways</p> <p>2. explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>3. recognise that environments can change and that this can sometimes pose</p>	<p>living</p> <p>habitat</p> <p>microhabitat</p> <p>classify</p> <p>classification</p> <p>classification key</p> <p>characteristics</p> <p>group</p> <p>vertebrate</p> <p>invertebrate</p> <p>environment</p> <p>environmental change</p>	<p>1.</p> <p>I can identify different ways that living things can be grouped.</p> <p>I can group living things using their observable characteristics.</p> <p>I can compare groups of living things.</p> <p>2.</p> <p>I can use a classification key to identify living things.</p> <p>I can use a classification key to group living things.</p> <p>I can create a simple classification key.</p> <p>I can use a classification key to name living things.</p>	

dangers to living things.		3. I can identify ways that environments can change. I can describe how changes to an environment can affect living things. I can identify some dangers that environmental changes can pose to living things.	
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UKS2	Year 5		
National Curriculum	Vocabulary	Sticky Knowledge 'I can...'	Skills (Disciplinary)
Working Scientifically Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Using test results to make predictions to set up further comparative and fair tests. Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identifying scientific evidence that has been used to support or refute ideas or arguments.			
Properties and changes of materials 1. compare and group together everyday materials on the basis of their properties,	hardness solubility soluble insoluble transparent	1. I can compare everyday materials using their properties. I can group materials based on their properties. I can identify whether a material is hard or soft. I can identify whether a material is soluble or insoluble.	

<p>including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</p> <p>2. know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>3. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>4. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>5. demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>6. explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	<p>translucent</p> <p>opaque</p> <p>electrical conductor</p> <p>electrical insulator</p> <p>thermal conductor</p> <p>thermal insulator</p> <p>dissolve</p> <p>solution</p> <p>solvent</p> <p>solute</p> <p>mixture</p> <p>filtering</p> <p>filter</p> <p>sieving</p> <p>sieve</p> <p>evaporation</p> <p>reversible change</p> <p>irreversible change</p> <p>new material</p> <p>burning</p> <p>acid</p> <p>bicarbonate of soda</p>	<p>I can identify whether a material is transparent, translucent or opaque.</p> <p>I can identify whether a material is an electrical conductor or insulator.</p> <p>I can identify whether a material is a thermal conductor or insulator.</p> <p>I can identify whether a material is magnetic or non-magnetic.</p> <p>2.</p> <p>I can identify that some materials dissolve in a liquid.</p> <p>I can identify that a solution is formed when a material dissolves.</p> <p>I can describe how to recover a dissolved substance from a solution.</p> <p>3.</p> <p>I can identify that a mixture contains two or more materials.</p> <p>I can choose a suitable method to separate a mixture.</p> <p>I can describe how filtering separates materials.</p> <p>I can describe how sieving separates materials.</p> <p>I can describe how evaporation separates materials</p> <p>4.</p> <p>I can identify suitable uses for everyday materials.</p> <p>I can explain why a material is suitable for a particular use.</p> <p>I can use evidence from an investigation to justify my choice of material.</p> <p>5.</p> <p>I can identify a reversible change.</p> <p>I can identify that dissolving is a reversible change.</p> <p>I can identify that mixing can be a reversible change.</p>	
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		<p>I can identify that changes of state are reversible.</p> <p>6.</p> <p>I can identify an irreversible change.</p> <p>I can identify when a new material has been formed.</p> <p>I can describe that burning is an irreversible change.</p> <p>I can describe that the reaction between an acid and bicarbonate of soda is an irreversible change.</p> <p>I can compare reversible and irreversible changes</p>	
<p>Animals Including Humans (Year 5)</p> <p>1. describe the changes as humans develop to old age.</p>	<p>life cycle</p> <p>infancy</p> <p>childhood</p> <p>adolescence</p> <p>puberty</p> <p>adulthood</p> <p>old age</p> <p>growth</p> <p>development</p>	<p>1.</p> <p>I can identify the stages of the human life cycle.</p> <p>I can name the stages of human development from birth to old age.</p> <p>I can describe how humans change as they grow and develop.</p> <p>I can compare the changes that happen at different stages of the human life cycle.</p>	
<p>Animal Including Humans (Year 6)</p> <p>1. Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>2. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>3. Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>circulatory system</p> <p>heart</p> <p>blood</p> <p>blood vessel</p> <p>artery</p> <p>vein</p> <p>capillary</p> <p>oxygen</p> <p>transport</p> <p>nutrients</p> <p>water</p> <p>diet</p> <p>lifestyle</p> <p>exercise</p> <p>drugs</p>	<p>1.</p> <p>I can identify the main parts of the human circulatory system.</p> <p>I can name the heart, blood vessels and blood.</p> <p>I can describe the function of the heart.</p> <p>I can describe the function of blood vessels.</p> <p>I can describe the function of blood.</p> <p>2.</p> <p>I can describe how a healthy diet helps the body to function.</p> <p>I can describe how exercise helps the body to function.</p> <p>I can describe how lifestyle choices can affect the body.</p> <p>I can identify that some drugs can affect the way the body functions.</p>	

		<p>3.</p> <p>I can describe how nutrients are transported around the body.</p> <p>I can describe how water is transported around the body.</p> <p>I can identify that the circulatory system transports nutrients and water.</p>	
<p>Living things and their habitats</p> <p>1. describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>2. describe the life process of reproduction in some plants and animals.</p>	<p>life cycle</p> <p>mammal</p> <p>amphibian</p> <p>insect</p> <p>bird</p> <p>offspring</p> <p>adult</p> <p>young</p> <p>reproduction</p> <p>reproduce</p> <p>seed</p> <p>pollen</p> <p>pollination</p> <p>fertilisation</p> <p>germination</p>	<p>1.</p> <p>I can describe the life cycle of a mammal.</p> <p>I can describe the life cycle of an amphibian.</p> <p>I can describe the life cycle of an insect.</p> <p>I can describe the life cycle of a bird.</p> <p>I can compare the life cycles of different animals.</p> <p>2.</p> <p>I can describe how some plants reproduce.</p> <p>I can describe how some animals reproduce.</p> <p>I can identify that living things produce offspring.</p> <p>I can compare reproduction in different plants and animals.</p>	
<p>Earth and space</p> <p>1. describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>2. describe the movement of the Moon relative to the Earth</p> <p>3. describe the Sun, Earth and Moon as approximately spherical bodies</p>	<p>Solar System</p> <p>Sun</p> <p>planet</p> <p>Earth</p> <p>Moon</p> <p>orbit</p> <p>rotate</p> <p>axis</p> <p>spherical</p> <p>day</p> <p>night</p>	<p>1.</p> <p>I can identify the Sun as the centre of the Solar System.</p> <p>I can identify that the Earth and the other planets orbit the Sun.</p> <p>I can describe the movement of the Earth around the Sun.</p> <p>I can describe the movement of the other planets around the Sun</p> <p>2.</p> <p>I can identify that the Moon orbits the Earth.</p>	

<p>4. use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p>		<p>I can describe the movement of the Moon around the Earth</p> <p>3. I can identify that the Sun is approximately spherical. I can identify that the Earth is approximately spherical. I can identify that the Moon is approximately spherical.</p> <p>4. I can identify that the Earth rotates on its axis. I can describe how the Earth's rotation causes day and night. I can describe the apparent movement of the Sun across the sky. I can explain that the Sun appears to move because the Earth rotates.</p>	
<p>Forces</p> <p>1. explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>2. identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>3. recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p>force gravity gravitational force friction air resistance water resistance unsupported moving surface mechanism lever pulley gear</p>	<p>1. I can identify that gravity is a force. I can identify that unsupported objects fall towards the Earth. I can describe that gravity pulls objects towards the Earth</p> <p>2. I can identify that friction is a force. I can identify that air resistance is a force. I can identify that water resistance is a force. I can describe how friction affects moving objects. I can describe how air resistance affects moving objects. I can describe how water resistance affects moving objects.</p> <p>3. I can identify a lever. I can identify a pulley.</p>	

		<p>I can identify a gear.</p> <p>I can describe how a lever can make work easier.</p> <p>I can describe how a pulley can make work easier.</p> <p>I can describe how gears can make work easier.</p> <p>I can identify that mechanisms allow a smaller force to have a greater effect.</p>	
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UKS2	Year 6		
National Curriculum	New Vocabulary	Sticky Knowledge 'I can...'	Skills (Disciplinary)
Working Scientifically Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. Using test results to make predictions to set up further comparative and fair tests. Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identifying scientific evidence that has been used to support or refute ideas or arguments.			
Evolution and Inheritance 1. recognise that living things have changed over time and that fossils	evolution adaptation adapted inheritance inherited	1. I can identify that living things have changed over time. I can identify that fossils provide evidence about living things from millions of years ago. I can describe how fossils help us learn about living things from	

<p>provide information about living things that inhabited the Earth millions of years ago</p> <ol style="list-style-type: none"> recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. 	<p>variation offspring parent fossil evidence survive environment species</p>	<p>the past.</p> <ol style="list-style-type: none"> <p>I can identify that offspring are usually similar to their parents. I can identify that offspring are not identical to their parents. I can describe that variation occurs within a species.</p> <p>I can identify adaptations in animals. I can identify adaptations in plants. I can describe how adaptations help living things survive in their environment. I can identify that adaptations can lead to evolution over many generations.</p> 	
<p>Electricity</p> <ol style="list-style-type: none"> associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches use recognised symbols when 	<p>voltage component circuit symbol circuit diagram lamp buzzer motor switch cell brightness volume</p>	<ol style="list-style-type: none"> <p>I can compare the brightness of lamps in different circuits. I can compare the volume of buzzers in different circuits. I can identify that adding more cells can make a lamp brighter. I can identify that adding more cells can make a buzzer louder.</p> <p>I can compare how electrical components work in different circuits. I can explain why a bulb is brighter or dimmer in different circuits.</p> 	

<p>representing a simple circuit in a diagram.</p>		<p>I can explain why a buzzer is louder or quieter in different circuits.</p> <p>I can explain how the position of a switch affects a circuit.</p> <p>3.</p> <p>I can identify recognised symbols for electrical components.</p> <p>I can draw a simple circuit using recognised circuit symbols.</p> <p>I can interpret a simple circuit diagram using recognised symbols</p>	
<p>Light</p> <ol style="list-style-type: none"> 1. recognise that light appears to travel in straight lines 2. use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye 3. explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes 4. use the idea that light travels in straight lines to explain why shadows have the same shape 	<p>light</p> <p>light source</p> <p>light ray</p> <p>straight line</p> <p>reflection</p> <p>reflect</p> <p>eye</p> <p>pupil</p> <p>shadow</p> <p>opaque</p>	<ol style="list-style-type: none"> 1. <p>I can identify that light travels in straight lines.</p> <p>I can describe that light appears to travel in straight lines</p> <ol style="list-style-type: none"> 2. <p>I can identify that some objects give out light.</p> <p>I can identify that most objects are seen because they reflect light.</p> <p>I can explain how light enters the eye so that we can see objects.</p> <p>I can use the idea that light travels in straight lines to explain how we see things.</p> <ol style="list-style-type: none"> 3. <p>I can identify that light travels from a light source to my eyes.</p> <p>I can explain that light reflects from an object into my eyes.</p> <p>I can describe how light allows us to see objects.</p> <ol style="list-style-type: none"> 4. 	

as the objects that cast them.		<p>I can identify that shadows are formed when light is blocked.</p> <p>I can explain why shadows have the same shape as the object that casts them.</p> <p>I can use the idea that light travels in straight lines to explain how shadows are formed.</p>	
<p>Living Things and Their Habitats</p> <p>1. describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</p> <p>2. give reasons for classifying plants and animals based on specific characteristics.</p>	<p>classify</p> <p>life cycle</p> <p>evolution</p> <p>adaptation</p> <p>inherited</p> <p>variation</p> <p>fossil</p> <p>evolution</p> <p>adaptation</p>	<p>1.</p> <p>I can identify similarities and differences between living things.</p> <p>I can group living things according to their observable characteristics.</p> <p>I can describe how living things are classified into broad groups.</p> <p>I can identify that living things include micro-organisms, plants and animals.</p> <p>2.</p> <p>I can identify the characteristics of plants and animals.</p> <p>I can classify plants and animals using their characteristics.</p> <p>I can explain why a plant or animal belongs to a particular group.</p> <p>I can use evidence to justify how I have classified a living thing.</p>	