

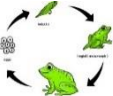












<p>Plants</p>  <p>Children will observe the growth of different plants and experience what is needed for germination, growth and survival, as well as the process of reproduction in plants.</p>	<p style="text-align: center;"> Cranmere Primary School Science 2019-2020</p>	<p>Animals, including humans</p> <p>Children will learn about the basic needs of animals and how animals, including humans, grow and change.</p> 
<p>Seasonal changes</p> <p>Children will investigate and explore the changes in weather and how this links to the four seasons.</p> 		<p>At Cranmere Primary School our vision is to ignite pupils' natural curiosity by providing them with opportunities to independently and confidently explore the world in which they live in. Our children will explore, classify, prove, wonder, ask questions, sort, measure, predict, investigate and discover connections. It is our mission for children to understand the role of science in this ever changing world, developing and applying transferable skills within a variety of contexts.</p>
<p>Light & shadows</p> <p>Children will identify different light sources and explore what happens when light reflects off of reflective surfaces. They will recognise when shadows are formed and find patterns in the way that the size of the shadows change.</p> 	<p>Living things & their habitats</p>  <p>Children will learn that all living things have certain characteristics that are essential for keeping them alive and healthy. They will learn about habitats and microhabitats by identifying and studying a variety of plants and animals within our local environment. They will observe how living things depend on each other for survival by constructing food chains.</p>	<p>Electricity</p> <p>Children will construct simple series circuits, trying different components to create simple devices. They will recognise common conductors and insulators and draw their circuits as pictorial representations.</p> 
<p>Rocks</p> <p>Children will explore a range of rocks and soils by comparing and grouping them based on their appearance and physical properties. They will learn about fossils and recognise that rocks and soils are made from organic matter.</p> 	<p>States of Matter</p> <p>Children will explore, compare and group a variety of everyday materials based on their states of matter. They will observe the changing of state and identify reversible and irreversible changes.</p>	<p>Sound</p> <p>Children will explore and identify the way sound is made through vibrations and find out about how the pitch and volume of sounds can be changed in a variety of ways.</p> 
<p>Forces & magnets</p> <p>Children will observe magnetic forces and identify which materials are magnetic. They will identify the force of gravity and identify the effects of friction and air/water resistance.</p> 	<p>Earth & Space</p> <p>Children will learn that the sun is a star at the centre of our solar system and it has eight planets. They will be able to explain day and night using models of the sun and Earth and describe the movement of the sun and different planets in our solar system.</p> 	<p>Working scientifically</p> <p>Children are given the opportunity to explore the world around them and raise their own questions. Children will record and communicate their findings in a range of ways and begin to use scientific language.</p> 
<p>Everyday materials</p>  <p>Children will explore, name, discuss and raise and answer questions about a wide range of materials and develop an understanding of their properties. They will understand how some materials are used and which of the properties make them suitable or unsuitable for a particular purpose.</p>		

	Autumn Term	Spring Term	Summer Term
	<p>EYFS : In our Nursery and Reception we follow the EYFS Development matters curriculum working towards the Early Learning Goals at the end of the Foundation Stage. Pupils follow a broad and balanced curriculum which is facilitated through enhanced provision which meets the needs and interests of our children.</p>		
Nursery	<ul style="list-style-type: none"> •Enjoys playing with small-world models such as a farm, a garage, or a train track. •Notices detailed features of objects in their environment 	<ul style="list-style-type: none"> •Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world. •Can talk about some of the things they have observed such as plants, animals, natural and found objects. •Talks about why things happen and how things work. •Developing an understanding of growth, decay and changes over time. •Shows care and concern for living things and the environment 	<ul style="list-style-type: none"> • Children can talk about the features of their own immediate environment and how environments might vary from one another.
Reception	<ul style="list-style-type: none"> • Children can talk about the features of their own immediate environment and how environments might vary from one another. 	<ul style="list-style-type: none"> • Children know about the similarities and differences in relations to places, objects, materials and living things. • Children can talk about the features of their own immediate environment and how environments might vary from one another. • Children make observations of animals and plants and explain why some things occur and talk about changes. • Children show some understanding that good practices with regard to exercise, eating, sleeping and hygiene can contribute to good health. • Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe. • Children eat a healthy range of foodstuffs and understands need for variety in food. 	<p>EARLY LEARNING GOALS</p> <ul style="list-style-type: none"> • Children know about the similarities and differences in relations to places, objects, materials and living things. • Children can talk about the features of their own immediate environment and how environments might vary from one another. • Children make observations of animals and plants and explain why some things occur and talk about changes. • Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.
Year 1	<ul style="list-style-type: none"> • Observe changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies • Distinguish between an object and the material from which it is made • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock • Describe the simple physical properties of a variety of everyday materials • Compare and group together a variety of everyday materials on the basis of their simple physical properties <p>Working scientifically</p> <p>asking simple questions and recognising that they can be answered in different ways</p> <ul style="list-style-type: none"> ♣ observing closely, using simple equipment 	<ul style="list-style-type: none"> • Observe changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies <p>Working scientifically</p> <p>asking simple questions and recognising that they can be answered in different ways</p> <ul style="list-style-type: none"> ♣ 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. 	<ul style="list-style-type: none"> • Observe changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Identify and name a variety of common animals that are carnivores, herbivores and omnivores • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, mammals including pets. <ul style="list-style-type: none"> • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees

	<ul style="list-style-type: none"> ♣ 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. 		<ul style="list-style-type: none"> • Identify and describe the basic structure of a variety of common flowering plants, including trees <p>Working scientifically</p> <p>asking simple questions and recognising that they can be answered in different ways</p> <ul style="list-style-type: none"> ♣ 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.
<p>Year 2</p>	<p>Animals Including Humans</p> <ul style="list-style-type: none"> • Understand that animals, including humans, have offspring which grow into adults • Explain the basic needs of animals for survival (water, food and air) • Describe and explain the importance for humans of exercise, eating healthily and keeping clean. <p>Living Things and their Habitats</p> <ul style="list-style-type: none"> • Explore and compare the differences between things that are alive, once alive and never alive • Describe how living things are suited to their habitats and how plants and animals in them depend on each other • Identify and name a variety of plants and animals in their habitats/microhabitats • Describe how animals obtain their food from plants and other animals; use the idea of a simple food chains <p>Working scientifically</p> <p>asking simple questions and recognising that they can be answered in different ways</p> <ul style="list-style-type: none"> ♣ 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. 	<p>Materials</p> <ul style="list-style-type: none"> • Identify and compare the suitability of a variety of everyday material, including wood, plastic, metal, glass, brick, rock, paper and cardboard for particular uses • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching <p>Plants</p> <ul style="list-style-type: none"> • Observe and describe how seeds and bulbs grow into mature plants • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy <p>Working scientifically</p> <p>asking simple questions and recognising that they can be answered in different ways</p> <ul style="list-style-type: none"> ♣ 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. 	<p>Living Things and their Habitats</p> <ul style="list-style-type: none"> • Explore and compare the differences between things that are alive, once alive and never alive • Describe how living things are suited to their habitats and how plants and animals in them depend on each other • Identify and name a variety of plants and animals in their habitats/microhabitats • Describe how animals obtain their food from plants and other animals; use the idea of a simple food chains <p>Plants</p> <ul style="list-style-type: none"> • Observe and describe how seeds and bulbs grow into mature plants • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy <p>Working scientifically</p> <p>asking simple questions and recognising that they can be answered in different ways</p> <ul style="list-style-type: none"> ♣ 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.
<p>Year 3</p>	<ul style="list-style-type: none"> • Recognise we need light to see and dark is the absence of light • Notice that light is reflected from surfaces • Recognise that light from the sun can be dangerous and the need to protect their eyes 	<ul style="list-style-type: none"> • Compare how things move on different surfaces • Notice that magnetic force can act at a distance • Observe how magnets attract or repel each other and attract some materials and repel others • Compare and group materials according to if they are magnetic 	<p>Continued</p> <ul style="list-style-type: none"> • Identify that humans and some other animals have skeletons and muscles for support, protection and movement • Identify and describe the functions of different parts of a plant: root, stem/trunk, flowers, leaves

	<ul style="list-style-type: none"> Recognise that shadows are formed when light from a source is blocked; identify patterns in how the size of a shadow changes Compare and group rocks according to appearance and simple physical properties Describe in simple terms how fossils are formed Recognise that soil is made from rocks and organic matter <p>Working scientifically</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Describe magnets as having two poles and use this to predict if they will attract or repel Identify that humans and some other animals have skeletons and muscles for support, protection and movement <p>Working scientifically</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Explore the requirements of plants for life and growth (air, light, water, nutrients, space) and how they vary from plant to plant Investigate how water is transported in plants Explore the part flowers play in plant life cycles, including pollination, seed formation and seed dispersal <p>Working scientifically</p> <ul style="list-style-type: none"> 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.
Year 4	<ul 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 function Construct and interpret a range of food chains; identify producers, predators, prey Identify common appliances that run on electricity Construct a simple series circuit; identify and name its parts Recognise that a component will only work if the circuit is complete and that a switch open and closes a circuit Identify common conductors and insulators <p>Working scientifically</p> <ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them 	<ul style="list-style-type: none"> Identify how sounds are made and recognise that vibrations from sounds travel to the ear Find patterns between the pitch of a sound and the object that makes the sound Find patterns between the volume of a sound and the strength of the vibrations Recognise that sounds get fainter as the distance from the source increases <p>Working scientifically</p> <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Compare and group materials according to whether they are solid, liquid or gas Observe that some materials change state when they are heated or cooled and measure the temperatures at which these changes happen Identify evaporation and condensation in the water cycle and link the rate of evaporation with temperature Recognise that living things can be grouped in a variety of ways Explore and use classification keys to group, identify and name a variety of living things in the local and wider environment Recognise that environments can change and that this can sometimes pose dangers to living things <p>Working scientifically</p> <ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them

	<ul style="list-style-type: none"> ♣ 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. 	<ul style="list-style-type: none"> ♣ 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. 	<ul style="list-style-type: none"> ♣ 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.
<p>Year 5</p>	<ul style="list-style-type: none"> • Explain that unsupported objects fall to earth because of the force of gravity acting between the Earth and the falling object. • Identify the effects of air resistance, water resistance and friction, that act between moving surfaces • Recognise that levers, pulleys and gears allow a smaller force to have a greater effect • Describe the movement of the Earth and other planets relative to the Sun in the solar system • Describe the movement of the moon relative to earth • Describe the Sun, Earth and Moon as approximately spherical bodies • Use the idea of the earth's rotation to explain day and night and the apparent movement of the sun across the sky <p>Working scientifically</p> <ul style="list-style-type: none"> ♣ 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 ♣ 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. 	<ul style="list-style-type: none"> • Compare and group properties on the basis of their properties (hardness, solubility, transparency, magnetism and conductivity – electrical and thermal) • Know that some materials will dissolve and describe how to recover them from a solution • Use knowledge of solids, liquids and gases to separate mixtures of materials • Give reasons for particular uses of materials • Demonstrate that dissolving, mixing and changes of state are reversible • Explain that some changes are irreversible and result in the formation of new materials <p>Working scientifically</p> <ul style="list-style-type: none"> ♣ 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 	<ul style="list-style-type: none"> • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • Describe the process of reproduction in some plants and animals • Describe the changes as humans develop from babies to old age <p>Working scientifically</p> <ul style="list-style-type: none"> ♣ planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ♣ recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs ♣ 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.

<p>Year 6</p>	<ul style="list-style-type: none"> Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Recognise that offspring vary from and are not identical to their parents Identify how animals and plants are adapted to suit their environment and that this may lead to evolution Describe how living things are classified into groups according to observable characteristics based on similarities and differences, including micro-organisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics <p>Working scientifically</p> <ul style="list-style-type: none"> ♣ 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. 	<ul style="list-style-type: none"> Identify and name the main parts of the circulatory system and describe their functions Recognise the impact of diet, exercise, drugs and lifestyle on body function Describe how nutrients and water are transported within animals including humans Recognise that light travels in straight lines and that we see things when objects give out or reflect light into the eye Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then our eyes Use the idea that light travels in straight lines to explain the shapes of shadows <p>Working scientifically</p> <ul style="list-style-type: none"> ♣ 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. 	<ul 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 Use recognised symbols in simple circuit diagrams <p>Working scientifically</p> <ul style="list-style-type: none"> ♣ 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.
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