



Science: Progression of Learning

Plants

EYFS	Year 1	Year 2	Year 3
<ul style="list-style-type: none"> • Learn about living things which are plants • Learn about plants and where they come from • Learn about how to look after plants 	<p>Theme: Introduction to Plants</p> <ul style="list-style-type: none"> • Identify and describe the basic structure of a variety of common flowering plants, including trees • Become familiar with common names of flowers, examples of deciduous and evergreen trees, and plant structures (including: <i>leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem</i>). • Identify and name a variety of common wild and garden plants, including <i>deciduous and evergreen trees</i> • Observe the growth of flowers and vegetables that they have planted. • Keep records of how plants have changed over time, for example, the leaves falling off trees and buds opening; and compare and contrast what they 	<p>Theme: Growth and Care</p> <ul style="list-style-type: none"> • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy • Observe and describe how seeds and bulbs grow into mature plants • Use the local environment throughout the year to observe how plants grow. • Be introduced to the requirements of plants for germination, growth and survival, as well as the processes of reproduction and growth in plants. • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy 	<p>Theme: Plant Life Cycle</p> <p><i>This unit is understanding plants in more depth. It builds upon Year 1 by encouraging children to think more scientifically about how and why plants grow as they do, as well as recognising the journey from seed to flowering plant.</i></p> <ul style="list-style-type: none"> • Observe plant growth, and setting fair tests with variables to understand best conditions for growth. • Learn the importance of plants and how they are vital in our lives. • Describe how plants soak up water • Explain how water and food moves around a plant • Explain how plants make their own food • Name the parts of the flower and describe what they do • Describe the process of pollination. • Describe the different ways plants share their seeds.



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	<p>have found out about different plants.</p>		<ul style="list-style-type: none"> • Describe the process of germination in seeds and bulbs. • Describe the life cycle of a plant • Describe how some plants reproduce asexually • Describe the features of non-vascular plants • Explore extraordinary plants and fungi • Explore the rainforest and its problems
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Forces		
EYFS	Y3	Y5
<ul style="list-style-type: none"> • Know what applying a force to an object means • Describe different forces • Discover which materials sink and float 	<ul style="list-style-type: none"> • Observe how magnets attract or repel each other and attract some materials and not others • Observe how magnets attract or repel each other and attract some materials and not others • 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 • Describe magnets as having 2 poles • Predict whether 2 magnets will attract or repel each other, depending on which poles are facing 	<ul style="list-style-type: none"> • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation. • Identify the effects of air resistance, water resistance and friction, that act between moving surfaces



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	<ul style="list-style-type: none">• Describe magnets as having 2 poles	<ul style="list-style-type: none">• Identify the effects of air resistance, water resistance and friction, that act between moving surfaces• Explore resistance in water by making and testing boats of different shapes.• Identify the effects of air resistance, water resistance and friction, that act between moving surfaces• Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect• Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect
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Rocks

Year 3

- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock
- Recognise that soils are made from rocks and organic matter



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Sound

Sound	
EYFS	Year 4
<ul style="list-style-type: none">• Explore how to make sounds• Know the names of the senses• Describe what each of our senses does	<ul style="list-style-type: none">• Identify how sounds are made, associating some of them with something vibrating.• Recognise that vibrations from sounds travel through a medium to the ear.• Find patterns between the pitch of a sound and features of the object that produced it.• Find patterns between the volume of a sound and the strength of the vibrations that produced it.• Recognise that sounds get fainter as the distance from the sound source increases

Earth and Space

Earth and Space	
EYFS	Year 5
<ul style="list-style-type: none">• Know what is in Space• Learn the names of some planets and features of Space• Know how Space travel is made possible• Learn about rockets• Find out about Robert Goddard - considered the father of modern rocket propulsion.	<ul style="list-style-type: none">• 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 the Earth.• Describe the sun, Earth and moon as approximately spherical bodies.• Use the idea of the Earth's rotation to explain day night and the apparent movement of the sun across the sky



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Living things and their habitats

EYFS	Year 2	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> • Name different types of animals • Explore different habitats animals live in • Discover dinosaurs and how they are now extinct • Know what an insect is • Learn about where an insect lives and why • Conduct an insect hunt • Name some different types of insect 	<p>Living Things and Their Habitats - Habitats Around the World</p> <ul style="list-style-type: none"> • Explore and compare the differences between things that are living, dead, and things that have never been alive. • 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 Identify and name a variety of plants and animals in their habitats, including microhabitats • Describe how animals obtain their food from plants and other animals, using the idea of a 	<p>Living Things and their Habitats - Nature and the Environment</p> <ul style="list-style-type: none"> • Recognise that living things can be grouped in a variety of ways. • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. • Recognise that environments can change and that this can sometimes pose dangers to living things 	<p>Studying living things</p> <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 life process of reproduction in some plants and animals • Find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall. 	<p>Evolution and Inheritance</p> <ul style="list-style-type: none"> • Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • Give reasons for classifying plants and animals based on specific characteristics • Find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.



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	<p>simple food chain, and identify and name different sources of food.</p>			
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Materials

EYFS	Year 1	Year 2	Year 5
<ul style="list-style-type: none"> • State the names of different materials • Describe materials using descriptive vocabulary • Know where some materials come from • Understand how some materials can change 	<p>Uses Everyday materials</p> <ul style="list-style-type: none"> • 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>Everyday materials</p> <p>This unit is about exploring the development of materials over time, including researching some of the key material innovators.</p> <ul style="list-style-type: none"> • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching • Explore the work of Charles Macintosh; understand how the properties of materials can be changed • Know about John McAdam’s invention, recognise that new materials are constantly being invented 	<p>Changes of Materials</p> <ul style="list-style-type: none"> • Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. • Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.



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		<ul style="list-style-type: none"> • Explore the work of John Dunlop; identify and compare the usefulness of certain materials when forces are applied • Explain why we use certain materials • Compare the uses of everyday materials 	<ul style="list-style-type: none"> • Demonstrate that dissolving, mixing and changes of state are reversible changes • 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.
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States of Matter

EYFS	Year 4
<ul style="list-style-type: none"> • State the names of different materials • Describe materials using descriptive vocabulary • Know where some materials come from • Understand how some materials can change shape • Know about melting and cooling 	<ul style="list-style-type: none"> • Compare and group materials together, according to whether they are solids, liquids or gases. • 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) • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.



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Evolution

Evolution	
EYFS	Year 6
<ul style="list-style-type: none">• Sort and classify things according to whether they are living, dead or were never alive-• make observations of animals and plants and explain why some things occur; talk about changes.• Explore diets of herbivorous and carnivorous dinosaurs and if any dinosaurs were omnivores;	<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 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

Seasonal

Seasonal	
EYFS	Year 1
<p>Weather and Seasons</p> <ul style="list-style-type: none">• Know the names of different seasons• State what weather is likely in different seasons• Recognise types of weather: learn about rain, ice, and water, snow and melting• Discuss ways to be safe in different types of weather• Describe why the air moves• Learn about rainbows in the sky	<ul style="list-style-type: none">• Observe changes across the 4 seasons• Observe and describe weather associated with the seasons and how day length varies



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<ul style="list-style-type: none"> • Learn about the seasonal changes that happen in Spring and Summer • Learn about the seasonal changes that happen in Autumn and Winter 	
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Light

EYFS	Year 3	Year 6
<ul style="list-style-type: none"> • Talk about the differences between materials and changes they notice e.g. explore how you can shine light through some materials, but not others. • Investigate shadows. • Explore the natural world around them • Observe and interact with natural processes, such as: light travelling through transparent material, an object casting a shadow 	<ul style="list-style-type: none"> • Recognise that they need light in order to see things and that dark is the absence of light • Notice that light is reflected from surfaces • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. • Recognise that shadows are formed when the light from a light source is blocked by an opaque object. • Find patterns in the way that the size of shadows change. 	<ul style="list-style-type: none"> • Recognise that light appears to travel in straight lines. • 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. • 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. • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Electricity

EYFS	Year 4	Year 6
<ul style="list-style-type: none"> • Know different ways to be safe • Know how to stay safe when using electricity • Explore constructing a circuit 	<ul style="list-style-type: none"> • Identify common appliances that run on electricity. • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Identify whether or not a lamp will 	<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, including the



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	<p>light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <ul style="list-style-type: none"> •Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. •Recognise some common conductors and insulators and associate metals with being good conductor 	<p>brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <ul style="list-style-type: none"> •Use recognised symbols when representing a simple circuit in a diagram
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Animals including Humans

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> •Know where food comes from •Informed about healthy food choices •Understand how animals are used for food production •Say why measuring ingredients is important •Learn about fruit and vegetables 	<p>Theme: About Animals</p> <ul style="list-style-type: none"> •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, 	<p>Theme: Growth</p> <ul style="list-style-type: none"> •Notice that animals, including humans, have <i>offspring</i> which grow into adults. •Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) <p>Diet and Health Describe the</p>	<p>Themes: What Makes Us</p> <ul style="list-style-type: none"> •Identify that animals, including humans, need the right types and amount of <i>nutrition</i>, and that they cannot make their own food; they get nutrition from what they eat. •Identify that humans and 	<p>Theme: Human food and digestion</p> <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 simple functions. •Construct and interpret a 	<p>Theme: The Human Life Cycle</p> <ul style="list-style-type: none"> •Describe the changes as humans develop to old age 	<p>Theme: The Heart and Health</p> <ul style="list-style-type: none"> •Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood •Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. •Describe the ways in which nutrients and



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<ul style="list-style-type: none">•Learn about ingredients and measuring•Know about and name body parts and describe what different body parts do•Explore how our bodies change•Think about how we are similar and different•Know the names of the senses and talk about what they do	<p>amphibians, reptiles, birds and mammals including pets)</p> <p>About Me</p> <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	<p>importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p>	<p>some other animals have skeletons and muscles for support, protection and movement</p>	<p>variety of food chains, identifying producers, predators and prey</p>	<p>water are transported within animals, including humans</p>
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