

Science Curriculum Road Map: Plants

EYFS

In EYFS, children should make observations of plants and know some names of plants, trees and flowers. Children may be able to name and describe different plants, trees and flowers.

Why do we follow with this unit?

Children understand the parts of the plants

What skills we will continue to build on?

See working scientifically progression

Year 1

Children should identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants. Identify and name the roots, trunk, branches and leaves of trees. Children will learn plants' basic needs for survival.

Why do we follow with this unit?
Children deepen knowledge of concepts introduced in Y1

What skills we will continue to build on?
See working scientifically progression

Year 2

Building on their learning in Year 1, pupils will focus on comparing the growth of seeds and bulbs and investigate what happens when plants' basic needs for survival are not met. They will compare evergreen and deciduous trees in more depth and begin to group plants according to their characteristics.

Why do we follow with this unit?
Children build on knowledge of growth by learning about the life cycle of plants.

What skills we will continue to build on?
See working scientifically progression

Science Curriculum Road Map: Plants

Year 3

By the end of Year 3, children should identify and describe the functions of different parts of the flowering plant: roots, stem/trunk/leaves and flowers. They should explore the part flowers play in a flowering plants life cycle, including pollination, seed formation and seed dispersal. Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary between plants. Know the way in which water is transported between plants.

Why do we follow with this unit?
Children investigate and use comparison to deepen knowledge of concepts in Y3

What skills we will continue to build on?
See working scientifically progression

Year 4

Children will build on their learning in Year 3 by investigating and comparing the conditions needed by different varieties of plant, investigating transportation of water in plants in more detail, and building their knowledge of the parts of flowers and their role in pollination by dissecting flowers.

Why do we follow with this unit?
Children use knowledge of pollination to understand reproduction in plants

What skills we will continue to build on?
See working scientifically progression.

Year 5

Through Living Things, pupils will learn about reproduction in plants and animals. In evolution and inheritance, children will identify fossils of plants and name plants that existed in the past. They will begin to explore the concept of evolution and how animals and plants are adapted to suit their environment in different ways- recognising that living things have changed over time.



Science
Curriculum Road Map: Plants

Why do we follow with this unit?
Children compare reproductive processes in plants and animals

What skills we will continue to build on?
See working scientifically progression

Year 6

In Living Things, pupils will build on their knowledge of plant and animal reproduction by comparing the processes of reproduction in plants and animals to identify similarities and differences. In evolution and inheritance, children will explore the concept of adaptation in more depth, looking at examples of how plants and animals have changed over time and relating this to their knowledge of evolution.

Curriculum Road Map - Animals and Humans

EYFS

In EYFS. Children should be able to identify different parts of their body. Have some understanding of healthy food and the need for variety in their diets. Know the effects exercise has on their bodies. Have some understanding of growth and change. Can talk about things they have observed including animals. Children are aware of how and why they keep their teeth and gums healthy. Children are beginning to gain an understanding of the lifecycles of animals.

Why do we follow with this unit?

Children learn the names of a range of animals and begin to understand how they are grouped, and basic needs of animals.

What skills we will continue to build on?

See working scientifically progression

Year 1

Building on EYFS knowledge, children should begin to identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals, describing their structures. They will identify and name a variety of common animals that are carnivores, herbivores and omnivores. They will also learn the names of body parts, and the basic needs of humans for survival.

Why do we follow with this unit?
Children apply knowledge of concepts introduced in Y1

Year 2

In Year 2, the pupils will apply their knowledge of different types of animals by creating a guide to different types of animals and begin to compare them - noticing features that they have in common. They will build on their knowledge of the basic needs of humans by learning about simple food groups and the characteristics of a healthy lifestyle. They will build on their knowledge of body parts by exploring the senses. They will note some of the ways that humans change as they grow.

Why do we follow with this unit?
Children build on knowledge of animals with food chains and food groups with nutrition and the digestive system.

What skills we will continue to build on?
See working scientifically progression

What skills we will continue to build on?
See working scientifically progression

Curriculum Road Map - Animals and Humans

Year 3

In Year 3, children will learn about the 7 nutrients that humans need to get from their food, and how these benefit the body. They will build on their knowledge of food groups by relating them to the nutrients and describe a healthy fraction of types of food to eat to have a balanced diet. They will learn for the first time about the digestive system and how it breaks down food to extract the nutrients. They will also learn some basic information about the skeletal and muscular systems - naming important bones and muscles and learning about how they work together to protect our organs, provide support and enable us to move. The children will also begin learning about simple food chains.

Why do we follow with this unit?
Children investigate concepts introduced in Y3.

What skills we will continue to build on?
See working scientifically progression

Year 4

Children will look at digestive system in more depth, relating this to the way that humans get their nutrition and comparing this to plants. They will explore the effects of not getting enough nutrition on the human body. They will learn more about muscle movement in humans, understanding how muscles work in groups and how they expand and contract, relating this to what they have learned about the importance of exercise. They will also explore different types of teeth and their functions, relating and comparing this to knowledge of other animals (eg. carnivores).

Year 5

In Year 5, pupils are introduced to the function and parts of the circulatory system. They will learn the functions of the system as a whole for transporting nutrients and other things around the body through the blood stream, and the functions of the heart, veins, arteries and capillaries within it. They will also continue to explore the idea of a healthy lifestyle, looking at how poor diet, lack of exercise and drug use (eg. smoking) can affect the body. They will describe the main changes as humans age, including those at puberty.

Why do we follow with this unit?
Children learn about circulatory system building on knowledge of digestive system.

What skills we will continue to build on?
See working scientifically progression.

Curriculum Road Map - Animals and Humans

Why do we follow with this unit?

Children learn about functions of the heart and health problems related to diet and exercise.

What skills we will continue to build on?

See working scientifically progression

Year 6

The children will investigate changes to the human body as humans age by graphing changes as humans grow and comparing the physical appearances of humans at different life stages. They will look in greater detail at the circulatory system, including the functions of the parts of the heart and the way that water is transported around the body. They continue to look at healthy lifestyles by exploring blood pressure, how cardiovascular exercise affects the body and the effects of too much sugar in the diet.

Curriculum Road Map - Evolution and Inheritance

Year 1

Children begin to explore the concept of evolution and inheritance by looking at the ways children can resemble their parents. In Living Things, children begin matching animals and plants to their habitats.

Why do we follow with this unit?

Children build on concept of family resemblance and how animals are suited to their habitats

What skills we will continue to build on?

See working scientifically progression

Year 2

Children continue to explore the concept of evolution and inheritance by looking at similarities and differences between children and their parents. In Living Things, they apply their knowledge of where animals live to design/create an ideal habitat for certain animals.

Why do we follow with this unit?

Children are introduced to fossils (link in Y5), learn about a wider range of habitats

What skills we will continue to build on?

See working scientifically progression

Year 3

In Year 3, children learn about the formation of fossils. In Living Things they explore a range of habitats and how the features of those habitats make them suitable for the animals and plants that live there.

Why do we follow with this unit?

Children link learning about fossils to habitats and explore how habitats can change over time

What skills we will continue to build on?

See working scientifically progression

Curriculum Road Map - Evolution and Inheritance

Year 4

In Year 4, children build on their knowledge of fossils by considering where certain types of fossil are likely to be found. They continue to explore a range of habitats and how they may change over time.

Why do we follow with this unit?
Children learn about fossils and evolution

What skills we will continue to build on?
See working scientifically progression

Year 5

Year 5 begins to bring together the knowledge developed across the strands of evolution and inheritance, living things, and materials (rocks and fossils) so far. The children name fossils and describe the conditions in which they lived, building up a greater understanding of how plants and animals adapt to their environment. They learn the theory of evolution.

Why do we follow with this unit?
Children build understanding of adaptation and evolution

What skills we will continue to build on?
See working scientifically progression.

Year 6

Year 6 build up a greater knowledge of evolution and adaptation - relating the two to understand how and why plants and animals change over time. They also categorise differences between living things and their offspring - and explore why they will not be identical.

Curriculum Road Map - Living Things

EYFS

Children should make comments and questions about the place they live or the natural world. Can talk about things they have observed such as plants and animals. Notices features of objects in their environment. Children should learn the names of animals and plants. Children will begin to learn about different lifecycles.

Why do we follow with this unit?

Children understand what a living thing is

What skills we will continue to build on?

See working scientifically progression

Year 1

In Year 1, children are introduced to the idea of things being living, dead or never alive. They begin to match a range of animals to their habitats and look at what they eat - using this knowledge to construct a simple food chain.

Why do we follow with this unit?
Children use knowledge of habitats to design one and present evidence of living/dead/never alive.

What skills we will continue to build on?
See working scientifically progression

Year 2

Children build on their knowledge of things that are living, dead or were never alive by categorising objects and giving evidence of their status. They continue to build their knowledge of animals in their habitats by considering the conditions that different types of animals and plants require. They apply this knowledge by designing an ideal habitat for an animal. They continue to explore simple food chains, relating this to their knowledge of omnivores, herbivores and carnivores in animals and humans in the autumn.

Why do we follow with this unit?
Children learn about wider range of habitats and how living things can be classified.

What skills we will continue to build on?
See working scientifically progression

Curriculum Road Map - Living Things

Year 3

Pupils continue to explore a range of different habitats and the animals and plants that live within them and the impact that humans can have on the environment. They build on their knowledge of types of animals from animals and humans in Year 2, by considering ways that animals can be grouped and are introduced to the concept of a classification key.

Why do we follow with this unit?
Children build on concepts introduced in Y3

What skills we will continue to build on?
See working scientifically progression

Year 4

Compare and contrast the features of animals (and plants) in different groups. Summarise the key similarities and differences of animals (and plants) in different groups.

Identify animals (and plants) using a classification key (apply).
Adapt a classification key to include different criteria.
Construct classification keys for animals (and plants).

Compare changes in two or more habitats and categorise the effects of the changes. Explain the concept of conservation and how groups are trying to preserve habitats.

Why do we follow with this unit?
Children learn about life cycles and reproduction, and more specific classification keys.

What skills we will continue to build on?
See working scientifically progression.

Year 5

In Year 5, children learn about the life cycles of mammals, birds, fish, amphibians, reptiles and insects. They build on their knowledge of plant life cycles from plants in Year 4 to describe the process of reproduction in plants. They learn about the reproductive processes of animals. They will continue to work with more specific classification keys - such as one for insects, and consider which characteristics are most useful for animal classification.

Curriculum Road Map - Living Things



Why do we follow with this unit?

Children compare reproductive processes, create and use classification key and understand why they are used.

What skills we will continue to build on?

See working scientifically progression

Year 6

Children will build on their knowledge of animal and plant reproduction by comparing these processes and identifying similarities and differences. They create and use a range of classification keys for different types of animals and plants, proposing their own criteria of observable characteristics and understanding why scientists use the criteria that they do.

Curriculum Road Map - Electrical Circuits

Year 3

Children are introduced to circuits through design technology by creating paper circuits in Year 3 Autumn.

Children begin to 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 a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes the circuit and associate this with whether a lamp lights in a simple series circuit. Safety when using electricity.

Why do we follow with this unit?

Children explore circuits with greater independence and learn about conductors.

What skills we will continue to build on?

See working scientifically progression

Year 4

Children continue to use circuits with a wider range of components.

Recognise some common conductors and insulators, and associate metals with being good conductors. Know the difference between a conductor and an insulator, giving examples of each.

Why do we follow with this unit?

Children consider what affects the function of components in circuits and learn electrical symbols

What skills we will continue to build on?

See working scientifically progression

Year 5

Children to conduct experiments in more depth by associating 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 representing a simple circuit in a diagram.

Why do we follow with this unit?

Children learn about voltage and resistance.

What skills we will continue to build on?

See working scientifically progression



Year 6

Pupils continue to explore and compare electrical circuits, learning about the concept of voltage in more detail and introducing the concept of resistors. They continue to use electrical symbols, with an understanding of how the symbol relates to the function of the component it represents.

Curriculum Road Map - Movement, Forces and Magnets

EYFS

Children should know about similarities and differences in relation to places, objects, materials and living things. They begin to talk about the features of their own immediate environment and how environments might vary from one another.

Why do we follow with this unit?

Children begin to consider movement of objects in response to pushes or pulls

What skills we will continue to build on?

See working scientifically progression

Year 1

Children are introduced to the concept of forces through observing and describing the movement of a range of things and explaining what happens to objects when they are pushed or pulled.

Year 2

Children build on their basic understanding of forces by comparing the movement of a range of things, and exploring the effects of gentle or hard pushes or pulls on the movement. They begin to observe the differences between movement of toy cars on different surfaces and on a slope, exploring how they might slow an object down or speed it up.

Why do we follow with this unit?
Children consider what affects and object's movement

What skills we will continue to build on?
See working scientifically progression

Why do we follow with this unit?
Children are introduced to forces, friction and magnets

What skills we will continue to build on?
See working scientifically progression

Curriculum Road Map - Movement, Forces and Magnets

Year 3

Children to compare how things move on different surfaces and are introduced to the concept of friction to explain these differences. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract and repel each other and attract some materials and not others. Compare and group together a variety of everyday materials based on whether they are attracted to a magnet and identify some magnetic materials. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Why do we follow with this unit?
Children investigate friction and magnetism in more contexts

What skills we will continue to build on?
See working scientifically progression

Year 4

In Year 4 children build on their knowledge of friction, by observing patterns of movement and exploring practical applications of friction (such as the design of car tyres). They build their knowledge of magnets by exploring whether magnetic forces can work through other objects and observing patterns in the characteristics of the objects. They use iron filings to demonstrate the poles of magnets and learn about practical applications of magnets.

Why do we follow with this unit?
Children learn about drag forces and gravity, and how forces can be transferred

What skills we will continue to build on?
See working scientifically progression.

Year 5

Children to explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object and the impact of gravity on our lives. Identify the effects of air resistance, water resistance and friction, which act between moving surfaces. Recognise that some mechanisms, including levers, pulleys, and gears, allow a smaller force to have a greater effect.

Curriculum Road Map - Movement, Forces and Magnets

Why do we follow with this unit?

Children apply knowledge of drag forces, gravity and mechanisms to a range of contexts

What skills we will continue to build on?

See working scientifically progression

Year 6

In Year 6 children build on their knowledge of gravity by interpreting data about objects falling to Earth and exploring whether the mass of an object makes a difference to the rate at which things fall. They learn about practical applications of drag forces and explore the relationship between the size of the object and the amount of force generated. They apply their knowledge of mechanisms by building their own, and exploring how rotary motion can be transferred to linear motion and how a small force can have a great effect.

Curriculum Road Map - Earth and Space

EYFS

In EYFS, children begin developing an understanding of change. Observe and explain why certain things may occur (e.g. leaves falling off trees, weather changes). Look closely at similarities, differences, patterns and change. Comments and questions about the place they live or the natural world.

Why do we follow with this unit?

Children learn about seasonal changes

What skills we will continue to build on?

See working scientifically progression

Year 1

Children to observe changes across the four seasons. Observe and describe weather and other key features (such as trees losing their leaves) associated with the seasons and how day length varies.

Why do we follow with this unit?
Children investigate seasonal changes

What skills we will continue to build on?
See working scientifically progression

Year 2

Children build their knowledge of seasonal changes by tracking weather across the seasons and comparing and contrasting weather across different seasons. They identify patterns in day length across the seasons and explore how the position of the sun in the sky changes across the day.

Why do we follow with this unit?
Children learn about sun safety and shadows

What skills we will continue to build on?
See working scientifically progression

Science
Curriculum Road Map - Earth and Space

Year 3

Children will continue to explore the movement of the earth in Light and Seeing, by observing and recording the length of shadows at different times in the day and learning about sun safety.

Why do we follow with this unit?
Children deepen knowledge of concepts introduced in Y3

What skills we will continue to build on?
See working scientifically progression

Year 4

In Light and Seeing in Year 4, children continue to build their understanding of shadows - how they are formed and what causes them to form. They learn about how and why the light from the sun can damage our eyes.

Year 5

Children learn about how the movement of the planets affects seasons and day and night. Children 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. Describe the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Why do we follow with this unit?
Children learn about the solar system

What skills we will continue to build on?
See working scientifically progression.

Curriculum Road Map - Earth and Space

Why do we follow with this unit?

Children relate knowledge of the solar system to tides, gravity and seasons

What skills we will continue to build on?

See working scientifically progression

Year 6

In Year 6, the children apply their knowledge of the movement of the moon around the sun to the tides. They relate their knowledge of gravity to the formation of the sun, earth and moon as approximately spherical bodies. They relate their knowledge of the solar system to seasons, time zones, day length and sun dials.

Science Curriculum Road Map - Materials

EYFS

Children begin to be able to ask questions about the place they live. Talk about why things happen and how things work. Discuss the things they have observed such as natural and found objects. Manipulates materials to achieve a planned effect.

Why do we follow with this unit?

Children learn about everyday materials objects are made from

What skills we will continue to build on?

See working scientifically progression

Year 1

Children distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, metal, plastic, glass, water and rock, Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials based on their simple properties.

Year 2

Knowing what the object is made of from Year 1, children to identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Why do we follow with this unit?
Children learn about types of rock and soil and solids, liquids and gases

What skills we will continue to build on?
See working scientifically progression

Why do we follow with this unit?
Children consider suitability of materials for purposes based on their properties

What skills we will continue to build on?
See working scientifically progression

Science
Curriculum Road Map - Materials

Year 3

Children compare and group together different kinds of rocks based on 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 and compare different types of soil. They are also introduced to states of matter - solids, liquids and gases and the effects of heating and cooling. They will learn about the water cycle.

Why do we follow with this unit?
Children test and categorise rocks and soils, and consider applications of states of matter

What skills we will continue to build on?
See working scientifically progression

Year 4

The children develop their knowledge of rocks by exploring ways to categorise rocks based on their observable characteristics, comparing rocks based on their origins and generalising to work out ways to identify rocks. They build on their knowledge of fossils by exploring where different types of fossils are found and the types of rock they are found in. They develop their knowledge of soils by suggesting ways to test them and relating knowledge of weathering learnt in Geography Y3. Categorise solids, liquids and gases and answer reasoning questions related to states of matter. Investigate condensation and evaporation logging temperature.

Why do we follow with this unit?
Learn about mixtures and solutions, apply knowledge of states of matter to separate them.

What skills we will continue to build on?
See working scientifically progression.

Year 5

Children should identify the part played by evaporation and condensation and associate the rate of evaporation with temperature. 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.

Science
Curriculum Road Map - Materials



Why do we follow with this unit?
Reversible and irreversible changes,
testing, comparing and grouping
materials based on all KS2 concepts

What skills we will continue to build on?
See working scientifically progression

Year 6

In Year 6, children to compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Comparative and fair tests, for the uses of everyday materials, including wood, metals and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in the formation of new materials, and this kind of change is usually not reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Curriculum Road Map - Light and Seeing

EYFS

Children think about their daily routine and explore the concept of day and night, learning how day is light and night is dark. They learn that we use our eyes to see.

Why do we follow with this unit?

Understand that light comes from sources

What skills we will continue to build on?

See working scientifically progression

Year 1

Name sources of light, illustrate how light travels from a source to our eyes.

Year 2

Experiment with blocking light and use this to demonstrate how light travels from a source to our eyes.

Why do we follow with this unit?
Demonstrate that light travels to our eyes from a source

What skills we will continue to build on?
See working scientifically progression

Why do we follow with this unit?
Darkness as the absence of light, introduce reflection, shadows

What skills we will continue to build on?
See working scientifically progression

Curriculum Road Map - Light and Seeing

Year 3

Children should 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 a solid object. Find patterns in the way that the sizes of shadows change.

Why do we follow with this unit?
Investigate concepts introduced in Y3

What skills we will continue to build on?
See working scientifically progression

Year 4

Children will build on knowledge of light and darkness from Y3 by exploring the concept of darkness as the absence of light, and investigating that we need light in order to see things - experimenting with visibility of different colours at different levels of light. They will expand on their knowledge of reflection by experimenting with reflecting light off different surfaces and categorising them according to their reflectivity. They will explain and predict the size and shape of shadows of objects in different conditions and continue to explore sun safety by investigating sunglasses and which are the most effective at protecting eyes from sunlight (without looking directly at the sun).

Why do we follow with this unit?
Understand that light travels in straight lines and that we see objects when light reflects off them

What skills we will continue to build on?
See working scientifically progression.

Year 5

Children should 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.

Curriculum Road Map - Light and Seeing



Why do we follow with this unit?

Apply knowledge of concepts introduced in Y5

What skills we will continue to build on?

See working scientifically progression

Year 6

Children build their knowledge of light and seeing from Year 5 by experimenting with ways to demonstrate how light travels and to apply their knowledge to questions such as 'can light ever bend a round corners?' and 'is light invisible?'. They will apply their knowledge of shadows and the solar system to explain why shadows appear longer in winter and shorter in summer. They will build on their understanding of reflection by constructing a periscope.

Curriculum Road Map - Sound and Hearing

EYFS

Children explore how musical instruments make different sounds. They learn that we use our ears to hear.

Why do we follow with this unit?

Understand that sounds have a source

What skills we will continue to build on?

See working scientifically progression

Year 1

Children will learn to name a variety of sources of sound and recognise a variety of sounds.

Children will observe how we hear sounds with our ears and illustrate that ears allow us to hear sounds.

Why do we follow with this unit?
Comparing and categorising sounds

What skills we will continue to build on?
See working scientifically progression

Year 2

Children build on their understanding of sound by categorising sounds and comparing and contrasting them based on their own criteria. They also investigate how loud sounds can be blocked to protect our ears.

Why do we follow with this unit?
Understand sound as vibrations that travel to the ear

What skills we will continue to build on?
See working scientifically progression

Curriculum Road Map - Sound and Hearing



Year 3

Listen to and describe a range of sounds from different sources.

Identify the source of sounds.

Listen to and describe sounds through a variety of mediums.

Draw a labelled diagram that shows how vibrations travel through a medium to the ear.

Why do we follow with this unit?
Experiment to demonstrate sound as vibration, comparing and contrasting loud/quiet sounds

What skills we will continue to build on?
See working scientifically progression

Year 4

Complete experiments and record findings that demonstrate how a tuning fork is vibrating when it makes a sound.

Compare and contrast how loud and quiet sounds are made.

Experiment with stringed musical instruments to discover how high and low notes are made and explain your findings.

Explain the role of vibration in creating sounds.

Year 5

Observe and describe the differences in the pitch of a sound and the object that produced it.

Observe and describe differences in the volume of a sound and the strength of the vibrations that produced it.

Observe and describe differences in sounds that are close and far away from their sources.

Why do we follow with this unit?
Relating sounds to objects that create them

What skills we will continue to build on?
See working scientifically progression.



Curriculum Road Map - Sound and Hearing



Why do we follow with this unit?
Demonstrate patterns between objects and sounds

What skills we will continue to build on?
See working scientifically progression

Year 6

Experiment with, explain and demonstrate the pattern between pitch of sound and the features of the object that produced it.

Experiment with, explain and demonstrate the pattern between the volume of a sound and the strength of the vibrations that produced it.

Experiment with, explain and demonstrate the pattern between the volume of a sound and the distance from its source.

Curriculum Road Map - Working Scientifically

EYFS

Children should know about similarities and differences in relation to places, objects, materials and living things, make observations of animals and plants, explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Why do we follow with this unit?

Children move from noticing to working scientifically

Year 1 -2

- Ask simple questions.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use observations and ideas to suggest answers to questions.
- Gather and record data to help in answering questions.

Year 3 - 4

- Ask relevant questions.
- Set up simple, practical enquiries and comparative and fair tests.
- Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.
- Gather, record, classify and present data in a variety of ways to help in answering questions.
- Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests.
- Identify differences, similarities or changes related to simple, scientific ideas and processes.
- Use straightforward, scientific evidence to answer questions or to support their findings.

Why do we follow with this unit?
Children develop more sophisticated scientific skills

Curriculum Road Map - Working Scientifically



Why do we follow with this unit?
Children more independent in use of range of recording and presenting skills, using scientific language to describe their findings

Year 5 - 6

- Plan enquiries, including recognising and controlling variables where necessary.
- Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision.
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.
- Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.
- Present findings in written form, displays and other presentations.
- Use test results to make predictions to set up further comparative and fair tests.
- Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.