

# Science Curriculum Overview

	Autumn	Spring	Summer
Y6	Working Scientifically Electricity	Animals and humans Light	Inheritance and Evolution Living things and their habitats
Y5	Forces	Earth and Space Materials	Animals and Humans Living things and their habitats
Y4	Sound	States of matter Electricity	Animals and Humans Living things and their habitats
Y3	Rocks	Light Plants	Forces and Magnets Animals and Humans
Y2	Living things and their habitats	Uses of Everyday Materials Animals including Humans	Growing Plants
Y1	Every day materials	Animals including humans	Plants
Y1	Seasonal changes 1	Seasonal changes 2	Seasonal changes 3
YR	This is me! Super Me!	Dear Zoo Beware Dragons!	All Creatures Great and small! Beside the Seaside

# Science Curriculum Overview

Y6

**Autumn**

**Working scientifically**  
 What is the process we go through when conducting an investigation?  
 What's the difference between our findings and our conclusion?  
 How do we ensure an investigation is valid, reliable and fair?

**Electricity**  
 How can we represent a simple circuit in a diagram?  
 How does the number of batteries affect the brightness of a bulb?  
 What else impacts the brightness of a bulb in a circuit?  
 What can affect the function of a component in a circuit?  
 How can I use my knowledge of electrical components to make a device?

**Spring**

**Light**  
 How does light travel?  
 Is a shadow always the same shape as the object that casts it?  
 How does a mirror reflect light?  
 What is refraction and why is it a phenomenon?  
 What colour is light? Is this a phenomenon?

**Animals and Humans**  
 What is the purpose of the circulatory system?  
 Why is blood so important?  
 How does exercise affect our circulatory system?  
 How are nutrients and water transported within animals, including humans?  
 How do diet, exercise, drugs and lifestyle impact our bodies?

**Summer**

**Inheritance and Evolution**  
 How do scientists know that living things have changed over time?  
 How does variation explain the different features and characteristics of living things?  
 How has variation led to evolution?  
 Do all living things adapt in the same way?  
 How have plants in the local area adapted?

**Living things and their habitats**  
 Is the classification of animals helpful?  
 Are there many similarities between animals in the local area?  
 How can plants be classified?  
 Is there a link between plant groups and the environment they grow in?  
 Do microorganisms matter?

Y5

**Forces**  
 How does friction affect the amount of force required to move an object?  
 What is gravity?  
 How does air resistance affect the speed at which an object falls?  
 What changes the effects of water resistance?  
 What impacts do gears, levers and pulleys have on forces?

**Space**  
 How does our position in the solar system impact life on earth?  
 Does anything else orbit the sun?  
 How do we get night and day?  
 How can shadows show us that Earth is rotating?

**Properties and changes of Materials**  
 What material is most effective in keeping a cup of tea warm?  
 Which material would be best to keep an ice-lolly cold?  
 When we change a material, is it always forever?  
 How can we separate a mixture?  
 When does a change make a new material?

**Animals and Humans**  
 How do humans change over time?  
 How can we investigate changes as we progress through the lifecycle?  
 What happens to us during puberty?  
 What can the size of animals. Including humans tell us about gestation periods?

**Living things and their habitats**  
 Are there differences between the lifecycles of mammals, amphibians, insects and birds?  
 How can we behave like naturalists?  
 What is sexual reproduction in plants?  
 Can plants reproduce without seeds?  
 Do all animals reproduce in the same way?

Y4

**Sound**  
 How do we hear sounds?  
 What patterns can you find between the strength of vibrations and volume of a sound?  
 What happens to sound as the distance from the sound source increases?  
 What material provides the best insulation against sound?  
 How do the features of an object affect the pitch of the sound it makes?

**States of matter**  
 How many states of matter are there?  
 Can temperature change the state of an object?  
 Can all liquids be frozen to become solids?  
 What are the stages of the water cycle?  
 Does temperature/location affect the rates of evaporation?

**Electricity**  
 Where does electricity come from and what is it used for?  
 How can we light a bulb using a simple, series electrical circuit?  
 How does a simple switch work?  
 What material is the best conductor of electricity?  
 What components are needed to make a working circuit?

**Animals and Humans**  
 Why do we have different shaped teeth?  
 What can we tell about an animal from looking at its teeth?  
 What happens to our food when we eat it?  
 Can models help us understand human processes?  
 Why are food chains important?

**Living things on their habitats**  
 Is it helpful to group living things?  
 What types of animals live in the local area?  
 What is special about our local environment?  
 What dangers are posed to habitats and the environment?  
 How can we develop the local area to protect living things?

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Y3	<p><b>Rocks</b>            What is rock and how can it be grouped?            How were rocks formed?            Why are different rocks suited to different purposes?            How are fossils made?            What is soil and how is it made?</p>	<p><b>Plants</b>            How are seeds dispersed?            What are the main functions of the different parts of a flowering plant?            How do plants make food and how is water transported?            What does a plant need to stay alive?            Why does a plant need flowers?</p> <p><b>Light</b>            How can we see without light?            How does light behave when it is reflected?            Can we change how shadows are formed?            How can we protect our eyes from the sun?            Do shadows stay the same all day?</p>	<p><b>Forces and Magnets</b>            What is a contact force?            How do different surfaces affect the movement of objects?            What is a magnet and how do they work?            What materials are attracted to a magnet?            Do all magnets have the same strength?</p> <p><b>Animals and Humans</b>            What food do humans need?            How can we keep our pets healthy?            Why do humans need a skeleton?            How do muscles work?            Do people who do more physical activity have stronger muscles?</p>
Y2	<p><b>Living things and their habitats</b>            What examples can I find of living things, things that are no longer alive and things that have never been alive?            What microhabitats can we find in our school?            Do plants need particular habitats too?            How do different habitats provide the basic needs of different kinds of animals and plants?            How do animals obtain food from other animals and plants?</p>	<p><b>Materials</b>            What do we know about everyday materials?            Which material is best?            How well do different materials bounce?            Can solid objects change shape?            Which fabric is the stretchiest?</p> <p><b>Animals and Humans</b>            How do animals change as they get older?            Do human body parts change with age?            What do animals need to survive?            Why should animals exercise?            Why do we eat different types of food</p>	<p><b>Plants</b>            What do plants grow from?            How do bulbs and seeds grow?            What does a seed need to grow?            How does a plant stay healthy?            What is the lifecycle of a plant?</p>
Y1	<p><b>Every day materials</b>            What materials are these objects made from?            What properties do materials have?            What material is best for absorbing water?            What material is best at keeping us dry – is waterproof?</p> <p><b>Seasonal Changes 1</b>            What is our local area like in each season?            Are days always the same length?            Is weather always the same here?</p>	<p><b>Animals including humans</b>            What parts make up the human body?            Which parts of our bodies do we need to see, hear, smell, taste and touch??            What is an animal?            How can we group animals?            Do all animals eat the same things?</p> <p><b>Seasonal Changes 2</b>            What is our local area like in each season?            Are days always the same length?            Is weather always the same here?</p>	<p><b>Plants</b>            What plants do we know and where can we find them?            What part of a plant is under the ground?            Can we use a flower to name a plant?            Are all tree trunks the same?            What are the leaves like on different trees?</p> <p><b>Seasonal Changes 3</b>            What is our local area like in each season?            Are days always the same length?            Is weather always the same here?</p>
YR	<p>What can you see/hear/smell/taste/touch?            Does water always stay the same?            What happens to trees in Autumn?            What materials are waterproof/keep us warm?            How do we stay fit and healthy?</p>	<p>What do pets need?            Can all animals be kept as pets?            What will a caterpillar change into?            How can we group animals?            How can we stay healthy and clean?            What material would you use to build a house?            Why are windows made of glass?</p>	<p>Do all materials float?            Would a paper coat keep you dry?            What do plants need to grow?            How many legs does an insect have?</p>