Park Road Academy

Primary School

Curriculum Progression

Science

Nursery	**Communication and Language** Understand 'why' questions, like: "Why do you think the caterpillar got so fat?" **Personal, Social and Emotional Development** Make healthy choices about food, drink, activity and tooth brushing. **Understanding the World** Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Talk about what they see, using a wide vocabulary. • Begin to make sense of their own life-story and family's history. • Explore how things work. • Plant seeds and care for growing plants. • Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things. • Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice.
Reception	**Communication and Language** Learn new vocabulary. • Ask questions to find out more and to check what has been said to them. • Articulate their ideas and thoughts in well-formed sentences. • Describe events in some detail. • Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. • Use new vocabulary in different contexts. **Personal, Social and Emotional Development** Know and talk about the different factors that support their overall health and wellbeing: - regular physical activity - healthy eating - tooth brushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian **Understanding the World** Explore the natural world around them. • Describe what they see, hear and feel while they are outside. • Recognise some environments that are different to the one in which they live. • Understand the effect of changing seasons on the natural world around them.

Working Scientifically		
Years 1 & 2	Years 3 & 4	Years 5 & 6
Asking simple questions and recognising that they can be answered in different ways.	Asking relevant questions and using different types of scientific enquiries to answer them.	
Performing simple tests.	Setting up simple practical enquiries, comparative and fair tests.	Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Observing closely, using simple equipment.	Making systematic and careful observations and where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers.	Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.
Gathering and recording data to help in answering questions.	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	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 and classifying.	Identifying differences, similarities or changes related to simple scientific ideas and processes.	Identifying scientific evidence that has been used to support or refute ideas or arguments.
	Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
	Using straightforward scientific evidence to answer questions or to support their findings.	
Using their observations and ideas to suggest answers to questions.	Using results to draw simple conclusions, make predictions for new values and suggest improvements and raise further questions.	Using test results to make predictions to set up further comparative and fair tests.
	Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	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.

Biology Living things and their habitats		
Years 1 & 2	Years 3 & 4	Years 5 & 6
Explore and compare the differences between things that are living, dead and things that have never been alive.	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.	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants, and animals. Give reasons for classifying plants and animals based on special characteristics
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.	Recognise that environments can change and that this can sometimes pose dangers to living things.	
Identify and name a variety of plants and animals in their habitats, including micro-habitats.		Describe the life processes of reproduction in some plants and animals.
Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	Construct and interpret a variety of food chains, identifying produces, predators and prey.	

Biology Plants		
Years 1 & 2	Years 3 & 4	Years 5 & 6
Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.	
Identify and describe the basic structure of a variety of common flowering plants, including trees.	Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.	
Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Investigate the way in which water is transported within plants.	
Observe and describe how seeds and bulbs grow into mature plants.	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Describe the life process of reproduction in some plants (and animals, including humans)

Biology Animals, including humans		
Years 1 & 2	Years 3 & 4	Years 5 & 6
Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.		
Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)		
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 that humans and some other animals have skeletons and muscles for support, protection and movement.	
Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)		Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans,
Notice that animals, including humans have offspring which grow into adults.		Describe the life processes of reproduction in some plants and animals, including humans. Describe the changes as humans develop from birth to old age. Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Describe the simple functions of the basic parts of the digestive system in humans.	Identify and name the main parts of the circulatory system, and explain the functions of the heart, blood vessels and blood.
Identify and name a variety of common animals that are carnivores, herbivores and omnivores.	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.	

	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.	

Biology Evolution & Genetics		
Years 1 & 2	Years 3 & 4	Years 5 & 6
		Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
		Identify how animals, including humans and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
		Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

Chemistry Materials and States of Matter		
Years 1 & 2	Years 3 & 4	Years 5 & 6
Distinguish between an object and the material from which it is made.	Compare and group materials together, according to whether they are solids, liquids or gases.	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.
Describe the simple physical properties of a variety of everyday materials.	Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees.	
Compare and group together a variety of everyday materials on the basis of their simple physical properties.		Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.

Chemistry The Earth: (Rocks, soil and atmosphere)		
Years 1 & 2	Years 3 & 4	Years 5 & 6
	Recognise that soils are made from rocks and organic matter.	
	Describe in simple terms how fossils are formed when things that have lived are trapped within rock.	
	Compare and group together different kinds of rocks on the basis of their simple physical properties.	

Physics Motion, forces and magnetism		
Years 1 & 2	Years 3 & 4	Years 5 & 6
Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Compare how things move on different surfaces.		Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
Notice that some forces need contact between two objects.	Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	Identify the effects of air resistance, water resistance and friction that act between moving surfaces.
		Recognise that some mechanisms, including gears, pulleys, levers and springs, allow a smaller force to have a greater effect.
	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.	
	Observe how magnets attract or repel each other and attract some materials and not others.	
	Describe magnets as having two poles.	
	Predict whether two magnets will attract or repel each other, depending on which poles are facing.	

Physics Energy		
Years 1 & 2	Years 3 & 4	Years 5 & 6
		Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.

Physics Earth & Space		
Years 1 & 2	Years 3 & 4	Years 5 & 6
Seasonal Changes: Observe changes across the four seasons.		Describe the movement of the Earth and other planets relative to the Sun in the solar system.
Observe and describe weather associated with the seasons and how day length varies.		Describe the movement of the Moon relative to the Earth.
		Describe the Sun, Earth and Moon as approximately spherical bodies.
		Use the ideas of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Physics Electricity		
Years 1 & 2	Years 3 & 4	Years 5 & 6
	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.	Use recognised symbols when representing a simple circuit in a diagram.
	Identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a complete loop with a battery.	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
	Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.	Compare and give reasons for variation ins how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.
	Recognise some common conductors and insulators, and associate metals with being good conductors.	

Physics Waves: Light		
Years 1 & 2	Years 3 & 4	Years 5 & 6
	Notice that light is reflected from surfaces.	Recognise that light appears to travel in straight lines.
	Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.	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.
	Recognise that they need light in order to see things and that dark is the absence of light.	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.
	Recognise that shadows are formed when the light from a light source is blocked by a solid object. Find patterns that determine the size of shadows.	Use the idea that light travels in straight lunes to explain why shadows have the same shape as the object that cast them.

Physics Waves: Sound		
Years 1 & 2	Years 3 & 4	Years 5 & 6
	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.	

KS1 Science Curriculum Objectives	Year 1	Year 2
Working Scientifically Asking simple questions and recognising that they can be answered in different ways.	In all units of work	
Working Scientifically Performing simple tests.		
Working Scientifically Observing closely, using simple equipment.		
Working Scientifically Gathering and recording data to help in answering questions.		
Working Scientifically Identifying and classifying.		
Working Scientifically Using their observations and ideas to suggest answers to questions.	Why are humans not like tigers?	Why would a dinosaur not make a good pet?
Biology – Living things and their habitats Explore and compare the differences between things that are living, dead and things that have never been alive.	Why are humans not like tigers? Where do plants and animals live?	Why would a dinosaur not make a good pet? How will 5 a day help me to keep healthy?
Biology – Living things and their habitats 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.	Why are humans not like tigers? Which plants will we find in the park? Where do plants and animals live?	Why would a dinosaur not make a good pet? How will 5 a day help me to keep healthy?
Biology – Living things and their habitats Identify and name a variety of plants and animals in their habitats, including micro-habitats.	Which plants will we find in the park? Where do plants and animals live?	Why would a dinosaur not make a good pet?

		How will 5 a day help me to keep healthy?
Biology – Living things and their habitats Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	Why are humans not like tigers? Where do plants and animals live?	Why would a dinosaur not make a good pet?
Biology – Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.	Which plants will we find in the park? Where do plants and animals live?	How can I be the next MasterChef?
Biology – Plants Identify and describe the basic structure of a variety of common flowering plants, including trees.	Which plants will we find in the park? Where do plants and animals live?	How can I be the next MasterChef?
Biology – Plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Which plants will we find in the park? Where do plants and animals live?	How can I be the next MasterChef? Why would a dinosaur not make a good pet?
Biology – Plants Observe and describe how seeds and bulbs grow into mature plants.	Which plants will we find in the park? Where do plants and animals live?	How can I be the next MasterChef?
Biology – Animals including humans Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.	Why are humans not like tigers?	How will 5 a day help me to be healthy?
Biology – Animals including humans Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	Why are humans not like tigers?	How will 5 a day help me to be healthy? Why would a dinosaur not make a good pet?
Biology – Animals including humans Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Why are humans not like tigers?	

Biology – Animals including humans Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Why are humans not like tigers?	How will 5 a day help me to be healthy? Why would a dinosaur not make a good pet?
Biology – Animals including humans Notice that animals, including humans have offspring which grow into adults.	Why are humans not like tigers?	How will 5 a day help me to be healthy? Why would a dinosaur not make a good pet?
Biology – Animals including humans Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.		How will 5 a day help me to be healthy?
Biology – Animals including humans Identify and name a variety of common animals that are carnivores, herbivores and omnivores.	Why are humans not like tigers?	How will 5 a day help me to be healthy? Why would a dinosaur not make a good pet?
Chemistry – Materials and States of Matter Distinguish between an object and the material from which it is made.	Which materials should the three little pigs use to build a house?	What materials would you use to build our school? Could Lightning McQueen race on our field?
Chemistry – Materials and States of Matter Describe the simple physical properties of a variety of everyday materials.	Which materials should the three little pigs use to build a house?	What materials would you use to build our school? Could Lightning McQueen race on our field?
Chemistry – Materials and States of Matter Compare and group together a variety of everyday materials on the basis of their simple physical properties.	Which materials should the three little pigs use to build a house?	What materials would you use to build our school?
Physics – Motion and Forces Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Which materials should the three little pigs use to build a house?	What materials would you use to build our school?
Physics – Motion and Forces (LKS2) Compare how things move on different surfaces.		Could Lightning McQueen race on our field?

Physics – Earth and Space (Seasonal Changes) Observe changes across the four seasons.	Why does it get darker earlier in winter?	
Physics – Earth and Space (Seasonal Changes) Observe and describe weather associated with the seasons and how day length varies.	Why does it get darker earlier in Winter?	

LKS2 Science Curriculum Objectives	Year 3	Year 4
Working Scientifically Asking relevant questions and using different types of scientific enquiries to answer them.	In all units of work	
Working Scientifically Setting up simple practical enquiries, comparative and fair tests.		
Working Scientifically Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.		
Working Scientifically Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.		
Working Scientifically Identifying differences, similarities or changes related to simple scientific ideas and processes.		
Working Scientifically Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.		
Working Scientifically Using straightforward scientific evidence to answer questions or to support their findings.		
Working Scientifically Using results to draw simple conclusions, make predictions for new values and suggest improvements and raise further questions.		

Working Scientifically Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.		
Biology – Living things and their habitats Recognise that living things can be grouped in a variety of ways.		Which animals and plants wild or domestic thrive in your locality?
Biology – Living things and their habitats Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.		Which animals and plants wild or domestic thrive in your locality?
Biology – Living things and their habitats Recognise that environments can change and that this can sometimes pose dangers to living things.		Which animals and plants wild or domestic thrive in your locality?
Biology – Living things and their habitats Construct and interpret a variety of food chains, identifying producers, predators and prey.		Which animals and plants wild or domestic thrive in your locality?
Biology – Plants Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.	How did that blossom become an apple?	
Biology – Plants Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.	How did that blossom become an apple?	
Biology – Plants Investigate the way in which water is transported within plants.	How did that blossom become an apple?	
Biology – Plants Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	How did that blossom become an apple?	
Biology – Animals including humans Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	How can Usain Bolt move so quickly?	
Biology – Animals including humans Describe the simple functions of the basic parts of the digestive system in humans.		What happens to the food we eat?

Biology – Animals including humans Identify that animals, including humans need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.	How can Usain Bolt move so quickly?	What happens to the food we eat?
Biology – Animals including humans Identify the different types of teeth in humans and their simple functions	How can Usain Bolt move so quickly?	What happens to the food we eat?
Biology – Animals including humans Construct and interpret a variety of food chains, identifying producers, predators and prey.		What happens to the food we eat?
Chemistry – Materials and States of Matter Compare and group materials together, according to whether they are solids, liquids or gases.		Do we ever see the water we drink again?
Chemistry – Materials and States of Matter 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.		Do we ever see the water we drink again?
Chemistry – The Earth (Rocks and Atmosphere) Recognise that soils are made from rocks and organic matter.	What do rocks tell us about the way the Earth was formed?	
Chemistry – The Earth (Rocks and Atmosphere) Describe in simple terms how fossils are formed when things that have lived are trapped within rock.	What do rocks tell us about the way the Earth was formed?	
Chemistry – The Earth (Rocks and Atmosphere) Compare and group together a variety of everyday materials on the basis of their simple physical properties.	What do rocks tell us about the way the Earth was formed?	
Physics – Motion and Forces (Magnetism) Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	In KS1 & What is the attraction?	
Physics – Motion and Forces Compare how things move on different surfaces.	In KS1 & What is the attraction?	
Physics – Magnetism 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.	What is the attraction?	

Physics – Magnetism Observe how magnets attract or repel each other and attract some materials and not others.	What is the attraction?	
Physics – Magnetism Describe magnets as having two poles.	What is the attraction?	
Physics – Magnetism Predict whether two magnets will attract or repel each other, depending on which poles are facing.	What is the attraction?	
Physics – Electricity Identify common appliances that run on electricity.		How could we cope without electricity for one day?
Physics – Electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.		How could we cope without electricity for one day?
Physics – Electricity Identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a complete loop with a battery.		How could we cope without electricity for one day?
Physics – Electricity Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.		How could we cope without electricity for one day?
Physics – Electricity Recognise some common conductors and insulators, and associate metals with being good conductors.		How could we cope without electricity for one day?
Physics – Waves: Light Notice that light is reflected from surfaces.	How far can you throw a shadow?	
Physics – Waves: Light Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.	How far can you throw a shadow?	
Physics – Waves: Light Recognise that they need light in order to see things and that dark is the absence of light.	How far can you throw a shadow?	

Physics – Waves: Light Recognise that shadows are formed when the light from a light source is blocked by a solid object.	How far can you throw a shadow?	
Physics – Waves: Light Find patterns that determine the size of shadows.	How far can you throw a shadow?	
Physics – Waves: Sound Identify how sounds are made, associating some of them with something vibrating.		Why is the sound made by Ed Sheeran enjoyed by so many people?
Physics – Waves: Sound Recognise that vibrations from sounds travel through a medium to the ear.		Why is the sound made by Ed Sheeran enjoyed by so many people?
Physics – Waves: Sound Find patterns between the pitch of a sound and features of the object that produced it.		Why is the sound made by Ed Sheeran enjoyed by so many people?
Physics – Waves: Sound Find patterns between the volume of a sound and the strength of the vibrations that produced it.		Why is the sound made by Ed Sheeran enjoyed by so many people?
Physics – Waves: Sound Recognise that sounds get fainter as the distance from the sound source increases.		Why is the sound made by Ed Sheeran enjoyed by so many people?

UKS2 Science Curriculum Objectives	Year 5	Year 6
Working Scientifically Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	In all units of work	
Working Scientifically Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.		
Working Scientifically 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.		
Working Scientifically		

Identifying scientific evidence that has been used to support or refute ideas or arguments.		
Working Scientifically Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.		
Working Scientifically Using test results to make predictions to set up further comparative and fair tests.		
Biology – Living things and their habitats Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.	Do all animals and plants start life as an egg?	Could Spiderman really exist?
Biology – Living things and their habitats Give reasons for classifying plants and animals based on special characteristics.	Do all animals and plants start life as an egg?	Could Spiderman really exist?
Biology – Living things and their habitats Describe the life process of reproduction in some plants and animals.	Do all animals and plants start life as an egg? How different will you be when you are as old as your grandparents?	Could Spiderman really exist?
Biology – Living things and their habitats Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	Do all animals and plants start life as an egg?	
Biology – Animals including humans Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.		Why is the heart the most important pump we own?
Biology – Animals including humans Describe the ways in which nutrients and water are transported within animals, including humans.		Why is the heart the most important pump we own?
Biology – Animals including humans Describe the changes as humans develop from birth to old age.	How different will you be when you are as old as your grandparents?	
Biology – Animals including humans Identify and name the main parts of the circulatory system, and explain the functions of the heart, blood vessels and blood.		Why is the heart the most important pump we own?

Biology – Evolution and Inheritance Identify how animals, including humans and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.		Have we always looked like this?
Biology – Evolution and Inheritance Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.		Have we always looked like this?
Biology – Evolution and Inheritance Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.	Do all animals and plants start life as an egg?	Have we always looked like this?
Chemistry – Materials and States of Matter 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.	Which materials have shape shifting properties?	
Chemistry – Materials and States of Matter Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	Which materials have shape shifting properties?	
Chemistry – Materials and States of Matter Know that some materials will dissolve in a liquid to form a solution, and describe how to recover a substance from a solution.	Which materials have shape shifting properties?	
Chemistry – Materials and States of Matter Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.	Which materials have shape shifting properties?	
Chemistry – Materials and States of Matter Demonstrate that dissolving, mixing and changes of state are reversible changes.	Which materials have shape shifting properties?	
Chemistry – Materials and States of Matter 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.	Which materials have shape shifting properties?	
Physics – Motion and Forces Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.	Does everything that goes up always come down?	

Physics – Motion and Forces Identify the effects of air resistance, water resistance and friction that act between moving surfaces.	Does everything that goes up always come down?	
Physics – Motion and Forces Recognise that some mechanisms, including gears, pulleys, levers and springs, allow a smaller forcer to have a greater effect.	Does everything that goes up always come down?	
Physics – Energy Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.	Does everything that goes up always come down?	
Physics – Earth and Space Describe the movement of the Earth and other planets relative to the Sun in the solar system.	Why are we sending another human to the moon?	
Physics – Earth and Space Describe the movement of the Moon relative to the Earth.	Why are we sending another human to the moon?	
Physics – Earth and Space Describe the Sun, Earth and Moon as approximately spherical bodies.	Why are we sending another human to the moon?	
Physics – Earth and Space Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	Why are we sending another human to the moon?	
Physics – Electricity Use recognised symbols when representing a simple circuit in a diagram.		Could robots replace humans?
Physics – Electricity Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.		Could robots replace humans?
Physics – Electricity 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.		Could robots replace humans?
Physics – Waves: Light Recognise that light appears to travel in straight lines.		Are you afraid of the dark?
Physics – Waves: Light 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.		Are you afraid of the dark?

Physics – Waves: Light 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.		Are you afraid of the dark?
Physics – Waves: Light Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast the,.		Are you afraid of the dark?