Science Knowledge and Skills Overview

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	**Keeping Healthy** . What happens when we exercise? . How and why do we clean our teeth? . How and why do we wash our hands? **Seasons/ Outdoor learning-** Where does water go? What is the weather like? Can we keep everywhere bear dry? **ELGS** **0-3** CL-Understand simple questions about who, what and where UTW- Repeat actions that have an effect UTW- Explore natural materials UTW- Notice differences between people **3-4** CL- Use a wider range of vocabulary	**Touch** . Understand touch as feeling and think about what different materials feel like **Seasons/ Outdoor Learning-** Make it move How can you make an object move? **ELGS** **0-3** CL-Understand simple questions about who, what and where CL- Identify familiar objects and properties UTW- Explore materials with different properties **3-4** CL- Use a wider range of vocabulary CL- Understand why questions CL- Be able to express a point of view UTW-Explore the natural world around them	**Animals- Wild** . Name animals and their young . Life cycle of a frog **Seasons/ Outdoor Learning**-Being able to plant seeds in soil using appropriate equipment What can you hear? Inside/outside? **ELGS** **0-3** CL-Understand simple questions about who, what and where UTW- Explore natural materials UTW- Explore and respond to different natural phenomena **3-4** CL- Use a wider range of vocabulary CL- Understand why questions CL- Be able to express a point of view	**Animals- Pets/Farm** . Name animals and their young **Seasons/ Outdoor Learning-** -Finding and identifying minibeasts **ELGS** **0-3** CL-Understand simple questions about who, what and where UTW- Identify familiar objects and properties UTW- Explore and respond to different natural phenomena **3-4** CL- Use a wider range of vocabulary CL- Understand why questions CL- Be able to express a point of view	**Growing** . observing plants when they are growing over time What do you notice? . Growing a plant (beanstalk) **Seasons/ Outdoor learning-** -Investigating the weather **ELGS** **0-3** CL-Understand simple questions about who, what and where UTW- Explore and respond to different natural phenomena **3-4** CL- Use a wider range of vocabulary CL- Understand why questions CL- Be able to express a point of view PD- Choose the right resources to carry out own plan UTW-Explore the natural world around them	**Changes** Notice changes that happen- linking to seasons/weather Light- What lights up? How do we make things light up? Understand night and day Think about how things look in the dark **Seasons/ Outdoor Learning** What is in the sky? Is it the same at night? **ELGS** **0-3** CL-Understand simple questions about who, what and where UTW- Explore materials with different properties **3-4** CL- Use a wider range of vocabulary CL- Understand why questions CL- Be able to express a point of view

Science Knowledge and Skills Overview

	CL- Understand why questions CL- Be able to express a point of view UTW-Explore the natural world around them UTW- Describe what they see, hear and feel whilst outside. UTW- Understand the effect of changing seasons on the natural world around them	UTW- Describe what they see, hear and feel whilst outside.	PD- Choose the right resources to carry out own plan UTW-Explore the natural world around them UTW- Describe what they see, hear and feel whilst outside. UTW- Recognise that some environments are different to the one in which they live UTW- Understand the effect of changing seasons on the natural world around them	UTW-Explore the natural world around them UTW- Describe what they see, hear and feel whilst outside.	UTW- Describe what they see, hear and feel whilst outside. UTW- Understand the effect of changing seasons on the natural world around them	UTW-Explore the natural world around them UTW- Describe what they see, hear and feel whilst outside. UTW- Understand the effect of changing seasons on the natural world around them
Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Rec	**Our Body** **Knowledge/Skills** . Learn about body parts and how they are used: arms, legs, chest, hands, feet, eyes, nose, ears, mouth and hair .Discover how bodies change . Find similarities and differences and what makes us all unique	**Health and Safety** **Knowledge/Skills** . Know people you can trust . Know how to stay safe when using electricity . exploring houses and what is needed in our home . Discover first aid and what to do in an emergency	**Food** **Knowledge/Skills** . Know ways to stay healthy and identify some healthy foods . Know where some foods come from . Examine different ingredients and weigh them to make a mixture .Explore use of wheat and flour to make dough	**Space** **Knowledge/Skills** Know that there are other planets and describe what they are like. Understand that the sun is a long way from us. Discover why space travel is important **ELGS:**	**Insects** **Knowledge/Skills** . Learn about insects and invertebrates and find out where they live **ELGS** PD: Use a range of small tools, including scissors, paint brushes and cutlery PD: Begin to show accuracy and care when drawing UTW: Explore the natural world around them, making	**Animals** **Knowledge/Skills** . Learn that animals are living things . Discover where animals live and what they need to survive . Learn about farm animals and how they are looked after . Learn about dinosaurs that lived on Earth

Science Knowledge and Skills Overview

	ELGS EAD: Make use of props and materials when role playing characters in narratives and stories CL: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary PSED: Show an understanding of their own feelings and those of others, and begin to regulate their behaviour accordingly PD: Negotiate space and obstacles safely, with consideration for themselves and others PD: Use a range of small tools, including scissors, paint brushes and cutlery EAD: Share their creations, explaining the process they have used KUW: Explore the natural world around them, making observations and drawing pictures of animals and plants KUW: Know some similarities and differences between things in the past and now, drawing on their experiences	**ELGS** UTW: Make comments about what they have heard and ask questions to clarify their understanding UTW: Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps PD: Use a range of small tools, including scissors, paint brushes and cutlery EAD: Share their creations, explaining the process they have used EAD: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function UTW: Know some similarities and differences between different religious and cultural communities in this country, drawing on their experiences and what has been read in class PSED: Explain the reasons for rules, know right from wrong and try to behave accordingly **Materials Knowledge/Skills**	**ELGS** CL: Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions PSED: Be confident to try new activities and show independence, resilience and perseverance in the face of challenge PSED: Explain the reasons for rules, know right from wrong and try to behave accordingly PD: Use a range of small tools, including scissors, paint brushes and cutlery UTW: Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class CL: Make comments about what they have heard and ask questions to clarify their understanding CL: Offer explanations for why things might happen, making use of recently introduced vocabulary from	PD: Use a range of small tools, including scissors, paint brushes and cutlery UTW: Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class ED: Share their creations, explaining the process they have used PD: Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases M: Have a deep understanding of number to 10, including the composition of each number ED: Make use of props and materials when role playing characters in narratives and stories **The Beach Knowledge/Skills** . Explore how waves wear away the coastline . Discover how to make the perfect sandcastle	observations and drawing pictures of animals and plants EAD: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function **Plants Knowledge/ Skills** . Discover that plants are living things . Learn about plants and where they come from . Know how to look after plants **ELGS** PD: Use a range of small tools, including scissors, paint brushes and cutlery UTW: Explore the natural world around them, making observations and drawing pictures of animals and plants CL: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary	**ELGS** PD: Begin to show accuracy and care when drawing UW: Explore the natural world around them, making observations and drawing pictures of animals and plants UW: Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class ED: Make use of props and materials when role playing characters in narratives and stories PSED: Show an ability to follow instructions involving several ideas or actions PD: Use a range of small tools, including scissors, paint brushes and cutlery UW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter

Science Knowledge and Skills Overview

	and what has been read in class. UTW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter CL: Make comments about what they have heard and ask questions to clarify their understanding PD: Begin to show accuracy and care when drawing EAD: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function **Senses** **Knowledge/ Skills** . Learn about the senses of sight, touch, hearing, smell and taste . Explore ways to make sound **ELGS** EAD: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function	.Learn about living and non-living things . Understand that things can change shape and explore process of melting . Learn about different materials and some of their features **ELGS** CL: Make comments about what they have heard and ask questions to clarify their understanding UTW: Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class UTW: Explore the natural world around them, making observations and drawing pictures of animals and plants CL: Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions	stories, non-fiction, rhymes and poems when appropriate UTW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter PSED: Set and work towards simple goals, being able to wait for what they want and control their immediate impulses when appropriate **Machines and Forces Knowledge/Skills** .Explore machines and types of mechanisms .Learn how machines make jobs easier .Discover different types of transport .Know what happens when you push or pull something .Explore objects that sink or float **ELGS** PD: Use a range of small tools, including scissors, paint brushes and cutlery PD: Demonstrate strength, balance and coordination when playing	**ELGS** UTW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter CL: Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, nonfiction, rhymes and poems when appropriate	UTW: Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps ED: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function PSED: Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions UTW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	ED: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function ED: Share their creations, explaining the process they have used **Weather Knowledge/ Skills** . Learn about rain, ice and water . Describe why the air moves . Explore snow and melting . Discover how rainbows are formed . Learn about seasonal changes **ELGS** CL: Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate UTW: Know some similarities and differences between the natural world around them and contrasting environments,

Science Knowledge and Skills Overview

	EAD: Make use of props and materials when role playing characters in narratives and stories EAD: Perform songs, rhymes, poems and stories with others, and – when appropriate – try to move in time with music PSED: Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions CL: Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions CL: Make comments about what they have heard and ask questions to clarify their understanding	UTW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter CL: Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, nonfiction, rhymes and poems when appropriate	PD: Negotiate space and obstacles safely, with consideration for themselves and others PD: Begin to show accuracy and care when drawing CL: Make comments about what they have heard and ask questions to clarify their understanding ED: Safely use and explore a variety of materials, tools and techniques ED: Share their creations, explaining the process they have used PD: Begin to show accuracy and care when drawing UTW: Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps EAD: Invent, adapt and recount narratives and stories with peers and their teacher			drawing on their experiences and what has been read in class UTW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter EAD: Make use of props and materials when role playing characters in narratives and stories EAD: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function PSED: Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions CL: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary PD: Use a range of small tools, including scissors, paint brushes and cutlery

Science Knowledge and Skills Overview

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y1	**Animals including Humans- Me** **Knowledge:** . Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. **Skills:** **.** Perform simple tests . Identify and classify . Using their observations and ideas to suggest answers to questions **.** Gather and record data to help in answering questions	**Animals including Humans- Animals** **Knowledge:** • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). **Skills:** .Asking simple questions and recognise that they can be	**Materials -1** **Knowledge:** • 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. **Skills:** .Perform simple tests	**Materials 2** **Knowledge** • 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.	**Plants** **Knowledge:** • 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, including trees. **Skills:** .Asking simple questions and recognise that they can be answered in different ways. .Observe closely, using simple equipment Identify and classify	**Seasons** **Knowledge:** • Observe changes across the four seasons. • Observe and describe weather associated with the seasons and how day length varies. **Skills:** **.** Perform simple tests .Identify and classify. . Using their observations and ideas to suggest answers to questions **.** Gather and record data to help in answering questions

Science Knowledge and Skills Overview

		answered in different ways. . Observe closely, using simple equipment . Identify and classify . Using their observations and ideas to suggest answers to questions . Gather and record data to help in answering questions	.Identify and classify .Using their observations and ideas to suggest answers to questions . Gather and record data to help in answering questions	**Skills:** **.** Perform simple tests Identify and classify . Using their observations and ideas to suggest answers to questions	. Using their observations and ideas to suggest answers to questions . Gather and record data to help in answering questions	

Science Knowledge and Skills Overview

	Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1
Y2	**Animals including Humans- Growth** **Knowledge:** . Find out about the basic needs of animals, including humans, for survival (water, food, air). . Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene. **Skills:** **.** Identify and classify . Perform simple tests . Using their observations and ideas	**Animal including Humans- Lifecycles** **Knowledge:** . Notice that all animals, including humans have offspring, which grow into adults. **Skills:** **.** Asking simple questions and recognise that they can be answered in different ways . Observe closely, using simple equipment . Identify and classify . Using their observations and ideas to suggest answers to questions	**Uses of Everyday Materials** **Knowledge:** . 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 the shapes of solid objects made by some materials can be changed by squashing, bending, twisting and stretching. **Skills:** **.** Perform simple tests . Using their observations and ideas	**Plants** **Knowledge:** . Observe and describe how seeds and bulbs grow into mature plants. . Find out and describe how plants need water, light and suitable temperature to grow and stay healthy. **Skills:** **.** Asking simple questions and recognise that they can be answered in different ways . Perform simple tests . Identify and classify	**Living things and their habitats** **Knowledge:** Explore the differences between things that are living, dead and things that had 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 micro habitats.	**Living things and their habitats-Around the world** **Knowledge:** Explore the differences between things that are living, dead and things that had 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 micro habitats.

Science Knowledge and Skills Overview

	to suggest answers to questions	. Gather and record data to help in answering questions	to suggest answers to questions . Gather and record data to help in answering questions	. Using their observations and ideas to suggest answers to questions . Gather and record data to help in answering questions	. 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. **Skills:** . Asking simple questions and recognise that they can be answered in different ways . Identify and classify . Using their observations and ideas to suggest answers to questions . Gather and record data to help in answering questions	. 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. **Skills:** **.** Asking simple questions and recognise that they can be answered in different ways . Observe closely, using simple equipment . Identify and classify . Using their observations and ideas to suggest answers to questions . Gather and record data to help in answering questions

Science Knowledge and Skills Overview

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y3	**Rocks** **Knowledge:** • 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. **Skills:** .Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.	**Light** **Knowledge:** . Recognise that they need light in order to see things, and that dark is an absence of light. . Notice that light is reflected from surfaces. .Recognise that light from the sun can be dangerous and there are ways to protect their eyes. .Recognise that shadows are formed when light is blocked by an opaque object. . Find patterns in the way that the size of shadows change. **Skills**	**Animals including Humans- muscles and Bones** **Knowledge:** . Identify that some animals including humans have skeletons and muscles for support, protection and movement. **Skills:** .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, keys, bar charts, and tables. .Report on findings from enquiries, including oral and written	**Animals including Humans-Diet** **Knowledge:** . 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. **Skills:** .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, keys, bar charts, and tables.	**Forces and Magnets** **Knowledge:** . Compare how things move on different surfaces. . Notice that some forces need contact between two objects but magnetic forces can act at a distance. . Observe how magnets can attract or repel each other and can attract some materials and not others. .Compare and group together a variety of every day materials on the basis of whether they are attracted to a magnet and identify magnetic materials . describe magnets as having two poles	**Plants** **Knowledge:** . Identify functions and parts of flowering plants: roots, stem/trunk, leaves and flowers. .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. . Investigate the way in which water is transported in plants . Explore the part that flowers play in the life cycle of flowering plants including pollination, seed formation and seed dispersal.

Science Knowledge and Skills Overview

	.Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. .Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. .Identify differences, similarities or changes related to simple scientific ideas and processes.	.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, keys, bar charts, and tables. .Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. .Identify differences, similarities or changes related to simple scientific ideas and processes.	explanations, displays or presentations of results and conclusions. .Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings.	.Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. .Identify differences, similarities or changes related to simple scientific ideas and processes Use straightforward scientific evidence to answer questions or to support their findings.	. predict whether magnets will attract or repel each other depending on which poles are facing. **Skills:** Set up simple practical enquiries, comparative and fair tests. .Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. .Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables .Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.	**Skills:** .Ask relevant questions and using different types of scientific enquiries to answer them . .Set up simple practical enquiries, comparative and fair tests Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including 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, keys, bar charts, and tables.

Science Knowledge and Skills Overview

						.Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. .Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

Science Knowledge and Skills Overview

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y4	**States of Matter** **Knowledge:** • 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. **Skills:** .Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers	**Electricity** **Knowledge:** • 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 light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. • 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 conductors. **Skills:** .Ask relevant questions and using different types of scientific	**Sound** **Knowledge:** • 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. **Skills:** .Set up simple practical enquiries, comparative and fair tests Make systematic and careful observations and, where appropriate, taking accurate measurements using	**Animals including Humans- Teeth and digestion** **Knowledge:** • 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 variety of food chains, identifying producers, predators and prey. **Skills:** .Set up simple practical enquiries, comparative and fair tests . .Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment,	**Living things and their habitats** **Knowledge:** Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things. Living things live in a habitat which provides an environment to which they are suited **Skills:** .Gather, record, classify and present data in a variety of ways to help in answering questions .Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions .Use straightforward scientific evidence to	**Living things and their habitats- Conservation** **Knowledge:** Recognise that environments can change and that this can sometimes pose dangers to living things. **Skills:** Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including 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,

Science Knowledge and Skills Overview

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

Science Knowledge and Skills Overview

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y5	**Properties of materials** **Knowledge:** . Compare and group together every day materials on the basis of their properties including: hardness, solubility, transparency, conductivity and response to magnets . Know that some materials will dissolve in a liquid to form a solution. . Use knowledge of solids, liquids and gasses to decide how mixtures might be separated including through filtering, sieving and evaporating. . Give reasons based on comparative tests for the particular uses of everyday materials including metals, woods and plastic.	**Changes to materials** **Knowledge:** Demonstrate that dissolving and mixing and change of state are reversible changes. . Explain that some changes result in the formation of new materials and this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda **Skills:** .Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. .Use test results to make predictions to set up further comparative and fair tests.	**Earth and Space** **Knowledge:** . 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 Earth, Sun and Moon as approximately spherical bodies .Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky **Skills:** .Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking	**Forces** **Knowledge:** . Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object . identify the effects of air resistance, water resistance and friction that act between moving surfaces. . recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect **Skills:** .Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	**Living things and their habitats** **Knowledge:** . Describe the differences in lifecycles of a mammal, amphibian, insect and bird .Describe the process of reproduction in some plants and animals. **Skills:** .Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. .Report and present 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.	**Animals including Humans** **Knowledge:** . Describe the changes as humans develop to old age **Skills:** Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. .Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. .Report and present findings from enquiries, including conclusions, causal relationships and

Science Knowledge and Skills Overview

	Skills: .Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. .Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. .Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. .Use test results to make predictions to set up further comparative and fair tests. . Report and present findings from enquiries,	.Report and present 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. .Identify scientific evidence that has been used to support or refute ideas or arguments.	repeat readings when appropriate. .Use test results to make predictions to set up further comparative and fair tests . .Report and present 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. .Identify scientific evidence that has been used to support or refute ideas or arguments.	.Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. .Report and present 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. .Identify scientific evidence that has been used to support or refute ideas or arguments.	.Identify scientific evidence that has been used to support or refute ideas or arguments.	explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. .Identify scientific evidence that has been used to support or refute ideas or arguments.

	including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations					

Science Knowledge and Skills Overview

Class	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y6	**Animals including Humans- circulatory system** **Knowledge:** . Identify and name the parts of the circulatory system, and describe the functions of the heart, blood vessels and blood. . Recognise the impact of diet, exercise, drugs and lifestyle on the ways their bodies function. . Describe the ways nutrients and water are transported in animals and humans **Skills:** .Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	**Living thing and their habitats** **Knowledge:** .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. **Skills:** .Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. .Take measurements, using a range of	**Evolution and inheritance** **Knowledge:** . 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 plants and animals have adapted to suit their environment in different ways and that adaptation can lead to evolution. **Skills:** .Report and present findings from enquiries,	**Light** **Knowledge:** . Recognise that light appears to travel in straight lines. . Use the idea that light travels in straight lines to explain that object are seen because they give out or reflect light in the eye. . Explain that we see things because light travels from light sources to our eyes of from light sources to objects 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. **Skills:**	**Electricity** **Knowledge:** . Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a 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. **Skills:** .Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	**Looking after the environment** **Knowledge:** . Recognise what climate is and how it changes . know the difference between a man made and a natural environment . know where different types of animals live **Skills:** Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. . Use test results to make predictions to set up further comparative and fair tests. .Report and present findings from

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