Knowledge Organisers for the priority subject for each concept to be issued 2-3 weeks before the learning block is taught. **Science Knowledge Organiser to be issued 2-3 weeks before the learning block is taught.**			
History	**Term**	**Term**	**Term**
EYFS	**Autumn**	**Spring**	**Summer**
Concept	Community and Inheritance	Innovation and Sources	Trade and Exploration
Knowledge	**Who Am I?** **Nature – Outdoor Adventure Activities - to observe and comment on the natural world.** **Keeping healthy –** **Seasonal Changes**	**Isn't it Amazing?** **Materials – exploring loose parts** **Light and dark – electrical circuit, light sources** **Physical processes** **Planting and growing** **Nature – Outdoor Adventure Activities - to observe and comment on the natural world.**	**Would you rather?** **Life processes and living things.** **Awe and wonder science activities** **Nature – Outdoor Adventure Activities - to observe and comment on the natural world.**
Skill Progression	**UTW** • Use all 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 history • Understand the effect of changing seasons on natural world around them • Explore the natural world around them **PSED** Manage their own needs. Be increasingly independent in meeting their own care needs, e.g., brushing teeth, using the	**UTW** • Explore how things work • Plant seeds and care for growing plants • Understand the key features of lifecycle of plants and animals • Begin to understand the need to respect and care for the natural environment and living things • Explore and talk about the different forces they can feel • Talk about difference between different materials and changes they notice • Understand the effect of changing seasons on natural world around them • Describe what they can see , hear and feel • Explore the natural world around them **PSED**	**UTW** • Understand the key features of lifecycle of plants and animals • Recognise some environments are different to the one they live in **ELG: UTW** • Explore the natural world around them, making observations and drawing pictures of animals and plants; • Know some similarities and differences between the natural world around them and contrasting environments, drawing on

	toilet, washing and drying their hands thoroughly. Make healthy choices about food, drink, activity and toothbrushing • COEL **Playing and exploring** - children investigate and experience things, and 'have a go'. **Active learning** - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements. **Creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things • • Show curiosity about objects, events and people Playing & Exploring • Engage in open-ended activity Playing & Exploring • Take a risk, engage in new experiences and learn by trial and error Playing & Exploring • Find ways to solve problems / find new ways to do things / test their ideas Creating & Thinking Critically •	Know and talk about the different factors that support their overall health and wellbeing: • regular physical activity • healthy eating • toothbrushing COEL **Playing and exploring** - children investigate and experience things, and 'have a go'. **Active learning** - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements. **Creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things • Use senses to explore the world around them Playing & Exploring • Make links and notice patterns in their experience Creating & Thinking Critically •	their experiences and what has been read in class; • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. **ELG: PSED** • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices COEL **Playing and exploring** - children investigate and experience things, and 'have a go'. **Active learning** - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements. **Creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things • Develop ideas of grouping, sequences, cause and effect Creating &Thinking Critically

Trust Knowledge and Skills Mapping: Science

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Year 1	**Autumn**	**Spring**	**Summer**
Concept	Community and Inheritance	Innovation and Sources	Trade and Exploration
	Weather/ Seasons – (Geog / Science) observe weather associated with change of seasons. Identify seasonal/ daily weather patterns in the UK and around the world. **Physics** Seasonal Changes ▪ observe changes across the four seasons ▪ observe and describe weather associated with the seasons and how day length varies.	**Properties of materials** **Weather –protection from the sun/other weather. Plants link.** **Chemistry** Every-day Materials ▪ 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. **Biology** Plants ▪ 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.	**Animals and human body** **Biology** Animals Including Humans ▪ 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) ▪ identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense
Skill Progression	**Planning Investigations** • Pupils can ask questions- *Ask simple questions when prompted* **Conclusions/Predictions**	**Planning Investigations** • Pupils can plan an enquiry- *Suggest ways of answering a question* **Conducting Investigation**	**Recording Evidence** • Pupils record work with diagrams and label them- *With prompting, suggest how findings could be recorded*

	• Pupils can draw conclusions- *Use observations to suggest answers to questions*	• Pupils can use equipment to take measurements- *Make relevant observations* • Pupils can use equipment to take measurements- *Conduct simple tests, with support* **Recording Evidence** • Pupils record work with diagrams and label them- *Pupils process findings to develop conclusions and identify causal relationships*	**Conclusions/Predictions** • Pupils can analyse data- *Gather and record data*
Meta Cognition	Classroom Discussion	Cognitive Task Analysis	Jigsaw Method
Year 2	**Autumn**	**Spring**	**Summer**
Concept	Community and Inheritance	Innovation and Sources	Trade and Exploration

Trust Knowledge and Skills Mapping: Science

Knowledge	***Revisit Y1 knowledge on weather. Identify and compare uses of different materials Flammability of materials - Fire of London. Identify and compare uses of different materials – burning pudding lane!*Revisit Y1 material knowledge** **Chemistry** Uses of Everyday Materials ▪ 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 from some materials can be changed by squashing, bending, twisting and stretching.	**Materials; Compare how things move on different surfaces *Revisit Y1 materials and transport knowledge.** **Growing plants and simple food chains * Revisit Y1 knowledge on local plants.** **Chemistry** Uses of Everyday Materials ▪ identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses **Biology** Plants ▪ observe and describe how seeds and bulbs grow into mature plants ▪ find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. **Physics** Forces (Y3) ▪ compare how things move on different surfaces	**Fieldwork/observational skills – living things and their habitats*Revisit Y1 field work knowledge.** **Biology** Living Things and Their Habitats ▪ explore and compare the differences between things that are living, dead, and things that have never been alive ▪ identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other ▪ identify and name a variety of plants and animals in their habitats, including microhabitats ▪ describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

			Biology Animals Including Humans ▪ notice that animals, including humans, have offspring which grow into adults ▪ find out about and describe the basic needs of animals, including humans, for survival (water, food and air) ▪ describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Trust Knowledge and Skills Mapping: Science

Skill Progression	**Planning Investigations** • Pupils can ask questions- *Ask simple questions* **Conducting Experiments** • Pupils can use equipment to take measurements- *Observe closely using simple equipment.* **Conclusions/Predictions** • Pupils can analyse data- *Gather and record data to help answer questions*	**Planning Investigations** • Pupils can plan an enquiry- *Recognise that questions can be answered in different ways* **Conducting Experiments** • Pupils can use equipment to take measurements- *Perform simple tests* **Conclusions/Predictions** • Pupils can draw conclusions - *Use their observations and ideas to suggest answers to questions*	**Recording Evidence** • Pupils record work with diagrams and label them- *Record and communicate their findings in a range of ways and begin to use simple scientific language* **Reporting Findings** • Pupils process findings to develop conclusions and identify causal relationships- *Identify and classify*
Meta Cognition	Classroom Discussion	Cognitive Task Analysis	Jigsaw Method
Year 3	**Autumn**	**Spring**	**Summer**
Concept	Community and Inheritance	Innovation and Sources	Trade and Exploration
Knowledge	**Rock classification and fossilisation.*Revisit Y2 knowledge on materials.** **Chemistry** Rocks ▪ 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.	**Shadows and reflections** **Energy sources- healthy Living-Animals: skeletons and nutrition.** **Physics** Light ▪ recognise that they need light in order to see things and that dark is the absence of light ▪ notice that light is reflected from surfaces ▪ recognise that light from the sun can be dangerous and that there are ways to protect their eyes ▪ recognise that shadows are formed when the light from a light source is blocked by an opaque object ▪ find patterns in the way that the size of shadows change.	**Magnetism –simple forces*Revisit Y2 knowledge** **Plants* Revisit Y2 knowledge** **Biology** Plants ▪ identify and describe the functions of different 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

		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 ▪ identify that humans and some other animals have skeletons and muscles for support, protection and movement.	▪ investigate the way in which water is transported within plants ▪ explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. **Physics** Forces and Magnets ▪ 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 attract or repel each other and attract some materials and not others ▪ compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials ▪ describe magnets as having two polespredict whether two magnets will attract or repel each other, depending on which poles are facing.
Skill Progression	**Planning Investigations** • Pupils ask questions- *Ask relevant questions when prompted* **Conducting Experiments**	**Planning Investigations** • Pupils can plan an enquiry- *Set up simple and practical enquiries, comparative and fair tests*	**Planning Investigations** • Pupils can identify and manage variables- *Set up comparative tests*

	• Pupils can use equipment to take measurements- *Make systematic observations, using simple equipment* **Recording Evidence** • Pupils record work with diagrams and label them- *Record findings in various ways* **Reporting Findings** • Pupils process findings to develop conclusions and identify causal relationships- *With prompting, suggest conclusions from enquiries* **Conclusions/Predictions** • Pupils can analyse data**-** *Gather and record data about similarities, differences and changes*	**Conducting Experiments** • Pupils explore how to improve the quality of data- *Use standard units when taking measurements* **Recording Evidence** • Pupils can display data using labelled diagrams, keys, tables and bar charts- *With prompting, suggest how findings may be tabulated* **Conclusions/Predictions** • Pupils can draw conclusions**-** *With prompting, suggest conclusions that can be drawn from data*	**Recording Evidence** • Pupils can display data using line graphs- *With prompting, use various ways of recording, grouping and displaying evidence* **Reporting Findings** • Pupils use displays and presentations to report on findings- *Suggest how findings could be reported* **Conclusions/Predictions** • Pupils can develop investigation further- *Suggest possible improvements or further questions to investigate*
Meta Cognition	Classroom Discussion	Cognitive Task Analysis	Jigsaw Method
Year 4	**Autumn**	**Spring**	**Summer**
Concept	Community and Inheritance	Innovation and Sources	Trade and Exploration
Knowledge	**Plants/ Animals in our local community- lifecycles. *Revisit Y3 growing plants knowledge * Revisit Y2 living things in habitats** **Electricity** **Biology** Living Things and their Habitats ▪ recognise that living things can be grouped in a variety of ways ▪ explore and use classification keys to help group, identify and name a	**States of matter-changes: water cycle.** **Chemistry** States of Matter ▪ 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	**Humans: sources of sound, teeth and digestive system.** **Physics** Sound ▪ identify how sounds are made, associating some of them with something vibrating ▪ recognise that vibrations from sounds travel through a medium to the ear

	variety of living things in their local and wider environment ▪ recognise that environments can change and that this can sometimes pose dangers to living things. **Physics** Electricity ▪ 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	associate the rate of evaporation with temperature.	▪ 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. **Biology** Animals Including Humans ▪ 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.
Skill Progression	**Planning investigations** • Pupils can ask questions- *Ask relevant questions* **Conducting Experiments** • Pupils can use equipment to take measurements- *Make systematic and careful observations using a range of equipment, including thermometers and data loggers* **Recording Evidence**	**Planning investigations** • Pupils can plan an enquiry- *Plan different types of scientific enquiries to answer questions* **Conducting Experiments** • Pupils explore how to improve the quality of data- *Take accurate measurements using standard units, where appropriate* **Recording Evidence**	**Planning investigations** • Pupils can identify and manage variables- *Set up simple and practical enquiries, comparative and fair tests* **Recording Evidence** • Pupils can display data using line graphs- *Gather, record, classify and present data in a*

	• Pupils record work with diagrams and label them- *Record findings using simple scientific language, drawings and labelled diagrams* **Reporting Findings** • Pupils process findings to develop conclusions and identify causal relationships- *Report on findings from enquiries, including oral and written explanations, of results and conclusions* **Conclusion/Predictions** • Pupils can analyse data- *Identify differences, similarities or changes related to simple scientific ideas and processes*	• Pupils can display data using labelled diagrams, keys, tables and bar charts- *Record findings using keys, bar charts, and tables* **Conclusion/Predictions** • Pupils can draw conclusions- *Use straightforward scientific evidence to answer questions or to support their findings*	*variety of ways to help to answer questions* **Reporting Findings** • Pupils use displays and presentations to report on findings- *Report on findings from enquiries using displays or presentations* **Conclusion/Predictions** • Pupils can develop investigation further- *Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions*
Meta Cognition	Classroom Discussion	Cognitive Task Analysis	Jigsaw Method
Year 5	**Autumn**	**Spring**	**Summer**
Concept	Community and Inheritance	Innovation and Sources	Trade and Exploration
Knowledge	**Life cycle of Animals *Revisit Y2 food chains knowledge** **Biology** Living Things and their Habitats ▪ describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird ▪ describe the life process of reproduction in some plants and animals. **Biology** Animals including Humans	**Space –solar system-innovation space race and beyond. *Revisit Y3 magnetism knowledge Forces-gravity.** **Physics** Earth and Space • 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	**Properties of Materials- trade impact. *Revisit Y2 material properties knowledge** **Chemistry** Properties and Changes of Materials • compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency,

	▪ describe the changes as humans develop to old age.	• describe the Sun, Earth 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 **Physics Forces** • 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.	conductivity (electrical and thermal), and response to magnets • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • demonstrate that dissolving, mixing and changes of state are reversible changes • explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda
Skill Progression	**Recording Evidence** • Pupils record work with diagrams and label them- *Record data and results*	**Planning investigations** • Pupils can plan an enquiry -*With prompting, plan different types of scientific enquiries to answer questions*	**Planning investigations** • Pupils can identify and manage variables**-** *With prompting, recognise and*

	• Pupils can display data using labelled diagrams, keys, tables and bar charts- *Record data using labelled diagrams, keys, tables and charts* **Reporting Findings** • Pupils use displays and presentations to report on findings- *With support, present findings from enquiries orally and in writing*	**Conducting Experiments** • Pupils can use equipment to take measurements -*Select, with prompting, and use appropriate equipment to take readings* • Pupils explore how to improve the quality of data- *Take precise measurements using standard units* **Recording Evidence** • Pupils can display data using labelled diagrams, keys, tables and bar charts- *Record data using labelled diagrams, keys, tables and charts* **Reporting Findings** • Pupils process findings to develop conclusions and identify causal relationships- *Report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships* **Conclusions/Predictions** • Pupils can draw conclusions**-** *Suggest how evidence can support conclusions*	*control variables where necessary* **Conducting Experiments** • Pupils understand the role of repeat readings- *Take and process repeat readings* **Recording Evidence** • Pupils can display data using line graphs**-** *Use line graphs to record data* **Recording Evidence** • Pupils explain confidence in findings- *With prompting, identify that not all results may be trustworthy* **Conclusions/Predictions** • Pupils can draw conclusions**-** *Suggest further comparative or fair tests*
Meta Cognition	Classroom Discussion	Cognitive Task Analysis	Jigsaw Method
Year 6	**Autumn**	**Spring**	**Summer**
Concept	Community and Inheritance	Innovation and Sources	Trade and Exploration

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Knowledge	**Evolution, adaptation, classification and Darwin *Revisit Y5 life cycle of animal knowledge** **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 ▪ give reasons for classifying plants and animals based on specific characteristics. **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 ▪ recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents ▪ identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution	**Energy sources; Electricity: investigating circuits and light and shadow: eye*Revisit Y3 shadows and reflection knowledge gravity *Revisit Y4 source of light, sound and electricity knowledge.** **Physics** Light ▪ 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 **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 • 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	**Forces** **Healthy living ; sex education- humans** **Biology Animals including Humans** ▪ identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood ▪ recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function ▪ describe the ways in which nutrients and water are transported within animals, including humans
Skill Progression	**Planning Investigations** • Pupils can plan an enquiry-	**Planning Investigations**	**Conducting Experiments**

	Plan different types of scientific enquiries to answer questions **Conducting Experiments** • Pupils can use equipment to take measurements - *Take measurements using a range of scientific equipment* **Recording Evidence** • Pupils record work with diagrams and label them- *Record data and results of increasing complexity using scientific diagrams and labels* **Reporting Findings** • Pupils process findings to develop conclusions and identify causal relationships- *Report and present findings from enquiries, including conclusions and causal relationships* **Conclusions/Predictions** • Pupils can draw conclusions- *Identify scientific evidence that has been used to support or refute ideas or arguments*	• Pupils can identify and manage variables- *Recognise and control variables where necessary* **Conducting Experiments** • Pupils explore how to improve the quality of data - *Take measurements with increasing accuracy and precision* **Recording Evidence** • Pupils can display data using labelled diagrams, keys, tables and bar charts- *Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar charts* **Reporting Findings** • Pupils use displays and presentations to report on findings- *Report and presents findings from enquiries in oral and written forms such as displays and other presentation* **Conclusions/Predictions** • Pupils can develop investigation further - *Use test results to make predictions to set up further comparative and fair tests*	• Pupils understand the role of repeat readings - *Take repeat readings when Appropriate* **Recording Evidence** • Pupils can display data using line graphs- *Record data and results of increasing complexity using line Graphs* **Reporting Findings** • Pupils explain confidence in findings - *Report and present findings from enquiries, including explanations of, and degree of, trust in results*
Meta Cognition	Classroom Discussion	Cognitive Task Analysis	Jigsaw Method