Nether Alderley School – Science Long Term Planning

Reception	Autumn Term		Spring Term		Summer Term	
KEY FOCUS	**'All About Me'** **'Harvest (Our senses)'**	Theme: **'Once upon a time…'** **'Christmas'**	Theme: **'Out of this World'**	Theme: **'Growing'**	Theme: **'Minibeasts'**	Theme: **'Adventures above and under the Sea'**
NC Objectives	• Learning about the body and label different parts of the body • Collect and observe natural objects relating to Autumn	• Read the 'Foggy Foggy Forest' book and create our own shadow puppets • Make our own rafts for Billy Goats Gruff, experimenting to make them float.	• Melting ice – change of state • Collect natural objects related to Winter	• Collect and observe natural objects related to Spring • Growing and planting- potatoes and tomatoes.	• Eco system – rainforest in a jar • Describe what we can hear, see and smell in our own garden • Lifecycles of a butterfly and frog • Sorting and describing minibeasts and looking at their habitats	• Floating and sinking-can we make our own pirate boat? • Sorting sea creatures into groups • Collect and observe natural objects related to Summer
End points (What we want the children to remember)	• Can talk about similarities and differences in relation to places, objects, materials and living things. • Can talk about the features of their own immediate environment and how environments might vary from one another. • Can make observations of animals and plants and explain why some things occur and talk about changes.	• Can safely use and explore a variety of materials, tools and techniques, experimenting with colour, design and texture • Can talk about similarities and differences in relation to places, objects, materials and living things.	• Can talk about similarities and differences in relation to places, objects, materials and living things. • Can talk about the features of their own immediate environment and how environments might vary from one another. • Can make observations of animals and plants and explain why some things occur and talk about changes.	• Can talk about the features of their own immediate environment and how environments might vary from one another. • Can make observations of animals and plants and explain why some things occur and talk about changes.	• Can talk about similarities and differences in relation to places, objects, materials and living things. • Can talk about the features of their own immediate environment and how environments might vary from one another. • Can make observations of animals and plants and explain why some things occur and talk about changes.	• Can safely use and explore a variety of materials, tools and techniques, experimenting with colour, design and texture • Can talk about similarities and differences in relation to places, objects, materials and living things. • Can talk about the features of their own immediate environment and how environments might vary from one another. • Can make observations of animals and plants and explain why some things occur and talk about changes.
VOCABULARY	Physical description words: hair (e.g. black, brown, dark, light, blonde, ginger, grey, white, long, short, straight, curly), eyes (e.g. blue, brown, green, grey), skin (e.g. black, brown, white), big/tall, small/short, bigger/smaller	North Pole, South Pole, sea, hot, cold, wet, dry, snow, ice,	ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy, not waterproof, best, change, change back	tree, bush, herb, names of plants they see plant, tree, bush, flower, vegetable, weed, animal,	Names of animals in their environment Live on land/water/ desert	name of a contrasting environment beach

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Year 1/2 Cycle A	Autumn Term		Spring Term		Summer Term	
KEY FOCUS	**Everyday Materials Year 1**	**Uses of Everyday Materials Year 2**	**Plants Year 1**	**Plants Year 2**	**Living things and their habitats Year 2**	**Animals including humans Year 1**
Prior learning – link back	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design and texture	• Distinguish between and object and the material from which it is made. • Identify and name a variety of everyday materials, including wood, plastic, glass, water and rock. • Describe the simple physical properties of a variety of everyday materials. • Compare and group together a variety of everyday materials on the basis of their physical properties.	• Talk about the features of their own immediate environment and how environments might vary from one another. • Can make observations of animals and plants and explain why some things occur and talk about changes.	• Identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen • Identify and describe the basic structure of a variety of common plants including roots, stem/trunk, leaves and flowers.	• Talk about the features of their own immediate environment and how environments might vary from one another. • Make observations of animals and plants and explain why some things occur and talk about changes.	• Make observations of animals and plants and explain why some things occur and talk about changes.
NC Objectives	• 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	• 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.	• 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	• 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.	• 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 micro-habitats • Describe how animals obtain their food from	• Identify and name a variety of common animals that are birds, fish, amphibians, reptiles 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 (birds, fish, amphibians, reptiles and mammals, and including pets). • Identify, name draw and label the basic parts of the human body and say which parts of the body is associated with each sense.

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	variety of everyday materials on the basis of their simple physical properties.				plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.	
End points (What we want the children to remember)	an distinguish between an bject and the material om which it is made an identify and name a ariety of everyday aterials, including wood, astic, glass, metal, water, nd rock an describe the simple hysical properties of a ariety of everyday aterials an compare and group gether a variety of veryday materials on the asis of their simple hysical properties.	an identify and compare the suitability of variety of everyday materials, including ood, metal, plastic, glass, brick, rock, aper and cardboard for particular uses an find out how the shapes of solid bjects made from some materials can be hanged by squashing, bending, twisting nd stretching.	an identify and name a variety of mmon wild and garden plants, cluding deciduous and evergreen ee an identify and describe the basic ructure of a variety of common owering plants, including trees.	an observe and describe how seeds nd bulbs grow into mature plants an find out and describe how ants need water, light and a itable temperature to grow and ay healthy.	• Can explore and compare the differences between things that are living, dead, and things that have never been alive • Can 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. • Can identify and name a variety of plants and animals in their habitats, including micro-habitats • Can 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.	• Can identify and name a variety of common animals that are birds, fish, amphibians, reptiles and mammals • Can identify and name a variety of common animals that are carnivores, herbivores and omnivores. • Can describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles and mammals, and including pets). • Can identify, name draw and label the basic parts of the human body and say which parts of the body is associated with each sense.
WORKING SCIENTIFICALLY	• *asking simple questions and recognising that they can be answered in different ways* • *observing closely, using simple equipment* • *performing simple tests* • *identifying and classifying* • *using their observations and ideas to suggest answers to questions* • *gathering and recording data to help in answering questions*					
VOCABULARY	everyday materials, wood, paper, plastic, metal, glass, water, rock, brick, stone, fabric, material, foil, elastic, dough, rubber, card, cardboard, clay, object, make/made,	everyday materials, wood, paper, plastic, metal, glass, water, rock, brick, stone, fabric, material, foil, elastic, dough, rubber, card, cardboard, clay, object, make/made, hard/soft, shiny/dull, stretchy/stiff rough/smooth, bendy/not bendy waterproof/not waterproof	Plants, wild plants, garden plants, evergreen trees, deciduous trees, common flowering plants, flowers, vegetables, leaf/leaves, flower, blossom, petal, stem, trunk, branch, root, seed, bulb, bud, growth, grow, habitat,	Plants, wild plants, garden plants, evergreen trees, deciduous trees, common flowering plants, flowers, vegetables, leaf/leaves, flower, blossom, petal, stem, trunk, branch, root, seed, bulb, bud, growth, grow, habitat,	pond, garden, field, park, woodland, sea, shore, river, ocean, forest, rainforest, stones, rocks, logs, leaf litter, habitat, micro-habitat, living, dead, not living, alive, healthy, food, food chain, depend,	names of common animals: fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, human, body, senses, see, hear, feel, smell, taste, habitat, local environment, pet, wild, animal, insect, minibeast, food, eat,

	hard/soft, shiny/dull, stretchy/stiff rough/smooth, bendy/not bendy, waterproof/not waterproof, transparent/opaque absorbent/not absorbent squash, twist, bend, stretch,	transparent/opaque absorbent/not absorbent squash, twist, bend, stretch,	local environment, leaf fall, water, light, temperature, survive, healthy growth, soil, germinate, stages of growth	local environment, leaf fall, water, light, temperature, survive, healthy growth, soil, germinate, stages of growth	source of food, shelter, grow, growth, healthy	head, neck, body, arms, legs, ears, eyes, nose, mouth, tongue, hands, feet, fingers, toes, elbows, knees, hair, teeth, grow, healthy, offspring, adults, young, water, air, survive, exercise, hygiene, egg, chick, chicken, caterpillar, pupa, moth, butterfly, tadpole, frog, frogspawn, lamb, sheep, calf, cow, foal, horse,

Year 1/2 Cycle B	**Autumn Term**		**Spring Term**		**Summer Term**	
KEY FOCUS	**Everyday Materials Year 1**	**Uses of Everyday Materials Year 2**	**Animals Including Humans Year 1**	**Animals Including Humans Year 2**	**Living things and their habitats Year 2**	**Animals including humans Year 2**
Prior learning – link back	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design and texture	• Distinguish between and object and the material from which it is made. • Identify and name a variety of everyday materials, including wood, plastic, glass, water and rock. • Describe the simple physical properties of a variety of everyday materials. • Compare and group together a variety of everyday materials on the basis of their physical properties.	• Talk about similarities and differences in relation to places, objects, materials and living things. • Talk about the features of their own immediate environment and how environments might vary from one another. • Can make observations of animals and plants and explain why some things occur and talk about changes.	• Identify and name a variety of common animals that are birds, fish, amphibians, reptiles 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 (birds, fish, amphibians, reptiles and mammals, and including pets). • Identify, name draw and label the basic parts of the human body and say which parts of the body is associated with each sense.	• Talk about the features of their own immediate environment and how environments might vary from one another. • Make observations of animals and plants and explain why some things occur and talk about changes.	• Identify and name a variety of common animals that are birds, fish, amphibians, reptiles 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 (birds, fish, amphibians, reptiles and mammals, and including pets). • Identify, name draw and label the basic parts of the human body and say which parts of the body is associated with each sense.

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NC Objectives	• 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.	• 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.	• 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	• 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	• 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 micro-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.	• 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.
End points **(What we want the children to remember)**	• Can distinguish between an object and the material from which it is made • Can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • Can describe the simple physical properties of a variety of everyday materials • Can compare and group together a variety of everyday materials on the basis of their simple physical properties.	• Can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • Can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	• Can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • Can identify and name a variety of common animals that are carnivores, herbivores and omnivores • Can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • Can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	• Can notice that animals, including humans, have offspring which grow into adults • Can find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • Can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	• Can explore and compare the differences between things that are living, dead, and things that have never been alive • Can 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. • Can identify and name a variety of plants and animals in their habitats, including micro-habitats • Can describe how animals obtain their food from plants and other animals,	• Can notice that animals, including humans, have offspring which grow into adults • Can find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • Can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

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					using the idea of a simple food chain, and identify and name different sources of food.	
WORKING SCIENTIFICALLY	• *asking simple questions and recognising that they can be answered in different ways* • *observing closely, using simple equipment* • *performing simple tests* • *identifying and classifying* • *using their observations and ideas to suggest answers to questions* *gathering and recording data to help in answering questions*					
VOCABULARY	everyday materials, wood, paper, plastic, metal, glass, water rock, brick, stone, fabric, material, foil, elastic dough, rubber, card, cardboard, clay, object, make/made, hard/soft, shiny/dull, stretchy/stiff rough/smooth, bendy/not bendy, waterproof/not waterproof, transparent/opaque, absorbent/not absorbent, squash, twist, bend, stretch	everyday materials, wood, paper, plastic, metal, glass, water rock, brick, stone, fabric, material, foil, elastic dough, rubber, card, cardboard, clay, object, make/made, hard/soft, shiny/dull, stretchy/stiff rough/smooth, bendy/not bendy, waterproof/not waterproof, transparent/opaque, absorbent/not absorbent, squash, twist, bend, stretch	names of common animals: fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, human, body, senses, see, hear, feel, smell, taste, habitat, local environment, pet, wild animal, insect, food, minibeast, eat, head, neck, body, arms, legs, ears, eyes, nose, mouth, tongue, hands, feet, fingers, toes, elbows, knees, hair, teeth, grow, healthy, offspring, adults, air, young, water, survive, exercise, hygiene, egg, chick, chicken, pupa, caterpillar, moth, butterfly, tadpole, frog, frog spawn, lamb, sheep, calf, cow, foal, horse,	names of common animals: fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, human, body, senses, see, hear, feel, smell, taste, habitat, local environment, pet, wild animal, insect, food, minibeast, eat, head, neck, body, arms, legs, ears, eyes, nose, mouth, tongue, hands, feet, fingers, toes, elbows, knees, hair, teeth, grow, healthy, offspring, adults, air, young, water, survive, exercise, hygiene, egg, chick, chicken, pupa, caterpillar, moth, butterfly, tadpole, frog, frog spawn, lamb, sheep, calf, cow, foal, horse,	pond, garden, field, park, woodland, sea, shore, river, ocean, forest, rainforest, stones, rocks, logs, leaf litter, habitat, micro-habitat, living, dead, not living, alive, healthy, food, food chain, depend, source of food, shelter, grow, growth, healthy	names of common animals: fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores, human, body, senses, see, hear, feel, smell, taste, habitat, local environment, pet, wild, animal, insect, minibeast, food, eat, head, neck, body, arms, legs, ears, eyes, nose, mouth, tongue, hands, feet, fingers, toes, elbows, knees, hair, teeth, grow, healthy, offspring, adults, young, water, air, survive, exercise, hygiene, egg, chick, chicken, caterpillar, pupa, moth, butterfly, tadpole, frog, frogspawn, lamb, sheep, calf, cow, foal, horse,

Year 3/4 Cycle A	**Autumn Term**		**Spring Term**		**Summer Term**
KEY FOCUS	**Light Year 3**	**Electricity Year 4**	**Animals Including Humans Year 3**	**Animals Including Humans Year 4**	**Plants Year 3**
Prior learning – link back	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design and texture	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design and texture	• Notice that animals, including humans, have offspring which grow into adults	• Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own	• 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.

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			• 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.	food; they get nutrition from what they eat • Identify that humans and some animals have skeletons and muscles for support, protection *and movement.*	
NC Objectives	• 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.	• 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. .	• 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.	• 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.	• 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 • 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
End points **(What we want the children to remember)**	• Can recognise that they need light in order to see things and that dark is the absence of light • Can notice that light is reflected from surfaces • Can recognise that light from the sun can be dangerous and that there are ways to protect their eyes • Can recognise that shadows are formed when the light from a light	• Can identify common appliances that run on electricity • Can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • Can 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	• 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.	• 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.	• 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 • 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

	source is blocked by an opaque object • Can find patterns in the way that the size of shadows change.	• Can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • Can recognise some common conductors and insulators, and associate metals with being good conductors.			
WORKING SCIENTIFICALLY	• *asking relevant questions and using different types of scientific enquiries to answer them* • *setting up simple practical enquiries, comparative and fair tests* • *making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers* • *gathering, recording, classifying and presenting data in a variety of ways to help in answering questions* • *recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables* • *reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* • *using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions* • *identifying differences, similarities or changes related to simple scientific ideas and processes* • *using straightforward scientific evidence to answer questions or to support their findings.*				
VOCABULARY	light dark (absence of light) reflect shadow opaque mirror reflective surface	electricity simple circuit light bulb cell wire buzzer switch motor battery series circuit conductor insulator	Nutrition, diet, skeleton, muscles, protection, support, movement, bones, skull, shell, digestive system, stomach, small intestine; large intestine, oesophagus, types of teeth: molar, premolar, incisor, canine, saliva	Nutrition, diet, skeleton, muscles, protection, support, movement, bones, skull, shell, digestive system, stomach, small intestine; large intestine, oesophagus, types of teeth: molar, premolar, incisor, canine, saliva	Functions, nutrients, nutrition, air, transport (water) life cycle, pollination, seed formation, seed dispersal, reproduce, fertiliser,

Year 3/4 **Cycle B**	**Autumn Term**		**Spring Term**	**Summer Term**	
KEY FOCUS	**States of Matter** **Year 4**	**Rocks** **Year 3**	**Living Things and Their Habitats** **Year 4**	**Forces and Magnets** **Year 3**	**Sound** **Year 4**
Prior learning – link back	• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	• 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 micro-habitats	• Talk about similarities and differences in relation to places, objects, materials and living things.	• Talk about similarities and differences in relation to places, objects, materials and living things.

	• find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.		• 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.		
NC Objectives	• 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.	• 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.	• 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 • recognise that environments can change and that this can sometimes pose dangers to living things	• 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 poles • predict whether two magnets will attract or repel each other, depending on which poles are facing	• 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.
End points **(What we want the children to remember)**	• Can compare and group materials together, according to whether they are solids, liquids or gases • Can 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) • Can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	• Can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • Can describe in simple terms how fossils are formed when things that have lived are trapped within rock • Can recognise that soils are made from rocks and organic matter.	• Can recognise that living things can be grouped in a variety of ways • Can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Can recognise that environments can change and that this can sometimes pose dangers to living things	• Can compare how things move on different surfaces • Can notice that some forces need contact between two objects, but magnetic forces can act at a distance • Can observe how magnets attract or repel each other and attract some materials and not others • Can 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	• Can identify how sounds are made, associating some of them with something vibrating • Can recognise that vibrations from sounds travel through a medium to the ear • Can find patterns between the pitch of a sound and features of the object that produced it • Can find patterns between the volume of a sound and the strength of the vibrations that produced it • Canrecognise that sounds get fainter as the distance from the sound source increases.

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					• Can describe magnets as having two poles • Can predict whether two magnets will attract or repel each other, depending on which poles are facing	
WORKING SCIENTIFICALLY	• *asking relevant questions and using different types of scientific enquiries to answer them* • *setting up simple practical enquiries, comparative and fair tests* • *making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers* • *gathering, recording, classifying and presenting data in a variety of ways to help in answering questions* • *recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables* • *reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions* • *using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions* • *identifying differences, similarities or changes related to simple scientific ideas and processes* *using straightforward scientific evidence to answer questions or to support their findings.*					
VOCABULARY	solid liquid gas temperature heat (heating) cool (cooling) water cycle evaporation condensation melting freezing	rock soil fossil organic matter grains crystals sedimentary rock	environment non-flowering plants ferns mosses flowering plants grasses vertebrate animals: fish, birds, mammals, amphibians, reptiles invertebrate animals: snails, worms, slugs, spiders, insects human impact – litter, deforestation, population increase, nature reserves		Move, movement, surfaces, forces, push, pull, contact, distance, magnet, bar, magnet, ring, magnet, horseshoe, magnet, attract, repel, poles (of magnets), magnetic materials,	Sound, vibration, vibrate, pitch, volume, insulation,

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Year 5/6 Cycle A	Autumn Term		Spring Term		Summer Term	
KEY FOCUS	**Light Year 6**	**Electricity Year 6**	**Animals Including Humans Year 5**	**Animals Including Humans Year 6**	**Living Things and Their Habitats Year 5**	**Living Things and Their Habitats Year 6**
Prior learning – link back	• Recognise that they need light in order to see things and that dark is the absence of light • Notice that light is reflected from surfaces • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes • Recognise that shadows are formed when the light from a light source is blocked by a solid object • Find patterns in the way that the sizes of shadows change.	• 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.	• 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.	• Describe the changes as humans develop from birth to old age.	• 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 • recognise that environments can change and that this can sometimes pose dangers to living things	• 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.
NC Objectives	• 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	• 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.	• describe the changes as humans develop to old age.	• 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.	• 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.	• 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.

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	explain why shadows have the same shape as the objects that cast them.					
End points **(What we want the children to remember)**	• 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.	• 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.	• describe the changes as humans develop to old age.	• 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.	• 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.	• 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.
WORKING SCIENTIFICALLY	• *planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary* • *taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate* • *recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* • *using test results to make predictions to set up further comparative and fair tests* • *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 scientific evidence that has been used to support or refute ideas or arguments.*					
VOCABULARY	light sources periscope	voltage components symbols circuit diagram	puberty gestation period circulatory system heart lungs blood vessels blood lifestyle disease water transportation nutrient transportation oxygen air breathing exercise diet drugs	puberty gestation period circulatory system heart lungs blood vessels blood lifestyle disease water transportation nutrient transportation oxygen air breathing exercise diet drugs	life cycles reproduction life processes sexual and asexual reproduction (plants) root cuttings classification microorganisms organisms evolution evolve adaptation variation inherit inheritance	life cycles reproduction life processes sexual and asexual reproduction (plants) root cuttings classification microorganisms organisms evolution evolve adaptation variation inherit inheritance

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Year 5/6 Cycle B	Autumn Term		Spring Term		Summer Term	
KEY FOCUS	**Evolution Year 6**	**Space and Earth Year 5**	**Forces**	**Year 5**	**Properties and changes of Materials**	**Year 5**
Prior learning – link back	•	•	• 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 poles • Predict whether two magnets will attract or repel each other, depending on which poles are facing.	•	• 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.
NC Objectives	• 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	• describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	• 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.	• .	• 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 • 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	• 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

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	adaptation may lead to evolution.				through filtering, sieving and evaporating	associated with burning and the action of acid on bicarbonate of soda
End points **(What we want the children to remember)**	• 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.	• describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	• 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.	• .	• 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 • 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
WORKING SCIENTIFICALLY	• *planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary* • *taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate* • *recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs* • *using test results to make predictions to set up further comparative and fair tests* • *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 scientific evidence that has been used to support or refute ideas or arguments.*					
VOCABULARY	life cycles reproduction life processes sexual and asexual reproduction (plants) root cuttings classification microorganisms organisms evolution evolve adaptation variation inherit inheritance	solar system planets: Mercury, Venus, earth, Mars, Jupiter, Saturn, Neptune, Uranus moon stars spherical bodies rotation orbit satellite	gravity air resistance water resistance friction levers pulleys gears springs		properties hardness solubility transparency electrical conductivity thermal conductivity magnetism dissolve solution substance separating mixing filtering sieving reversible change burning rusting reactions irreversible change	