

Physics	Developing (DA 2-4)	Broadening (DA 4-5)	Blended (DA 5+ - KS1 and Lower KS2)	Pathway (Upper KS2- gateway into 3)
Senses including, Light and Dark and Sound	<p>Use senses to investigate changes in light levels, sound levels and textures and demonstrate how we can control these (e.g. turn lights on/off)</p> <ol style="list-style-type: none"> To show interest in changes in the light levels. To practise turning the lights on and off and label whether it is light or dark. To show some interest in changes in the sound levels. To practise turning the sound on and off and label if it is loud or quiet. To investigate different textures and to show some preferences. 	<p>Identify correct body part used for each sense and investigate different cancelling effects (e.g. blindfolds, ear defenders)</p> <ol style="list-style-type: none"> Can match the senses to the corresponding body parts. Investigate different materials (transparent, translucent and opaque) to see how to cancel effect of seeing. (e.g. design a blindfold). To investigate how we can block sound from reaching our ears (e.g. design ear defenders). To investigate how we can block smell from reaching our noses. To investigate how we can cancel effect of feeling textures. 	<p>Investigate light and shadows</p> <ol style="list-style-type: none"> Start to identify some sources of light (natural and artificial). To start understanding that darkness is an absence of light. 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 size of shadows changes 	<p>Identify how sounds are made</p> <ol style="list-style-type: none"> Associate some sounds being made 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
Friction, forces and electricity	<p>Investigate pushes, pulls and twists</p> <ol style="list-style-type: none"> Can copy pushing, pulling and twisting motions Demonstrate an understanding of key vocabulary e.g. push and pull by following instructions Experiment with push, pulls and twists in a variety of situations 	<p>Investigate friction and its impact on moving objects</p> <ol style="list-style-type: none"> Notice that objects move faster/slower with different applied forces Explore different surfaces and how they impact on moving objects Investigate how a force can make the objects move, slow down, go faster, stop or change direction <p>Demonstrate knowledge of the safe operation of electrical appliances and the power sources they use.</p> <ol style="list-style-type: none"> Start identifying common appliances that run on electricity Sort appliances into ones that use batteries and mains electricity Sort safe and not safe way of using electrical appliances 	<p>Explain why changes in friction can impact the movement of objects</p> <ul style="list-style-type: none"> Notice that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Notice the effects of air resistance, water resistance and friction, that act between moving surfaces Notice that some forces need contact between two objects Notice that friction is different on different surfaces <p>Build a simple circuit and problem solve if it doesn't work</p> <ol style="list-style-type: none"> Investigate how batteries (cells) work 	<p>Compare how things move on different surfaces when exposed to magnetism</p> <ol style="list-style-type: none"> 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

			<p>2. Identify basic parts of a circuit, including cell, wire, bulb, switch and buzzer</p> <p>3. Help to finish completing a circuit</p> <p>4. Start constructing a simple circuit, identifying/naming its basic parts</p> <p>5. Notice that a switch opens and closes a circuit and associate this with whether or not a bulb lights in a simple series circuit</p>	<p>Build a simple circuit, solve problems if it doesn't work and use the knowledge of conductors and insulators to say why.</p> <ul style="list-style-type: none"> Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Identify whether or not a bulb will light in a simple series circuit, based on whether or not the bulb is part of a complete loop with a battery Demonstrate that a switch opens and closes a circuit and associate this with whether or not a bulb lights in a simple series circuit Recognise some common conductors and insulators, and associate metals with being good conductor
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Biology	Developing	Broadening	Blended	Pathway
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<p>Human Bodies, growth and life cycle</p>	<p>Indicate different body parts</p> <ol style="list-style-type: none"> 1. Point to different body parts through song 2. Touch a named body part 3. Touch a named photo/symbol of a body part <p>Recognise adults and their young</p> <ol style="list-style-type: none"> 1. Match a mammal adult to its corresponding young. 2. Sort photographs of humans into children and adults. 	<p>Name body parts using words, symbols, photos</p> <ol style="list-style-type: none"> 1. Match photos of body parts to their own or an image of a body 2. Use symbols and/or words to name the different body parts <p>Compare fully grown adults with their young</p> <ol style="list-style-type: none"> 1. Put pictures in order from babies to adults 2. Match key characteristics to each stage of human development 3. Compare what is the same and what is different at different stages of human development 	<p>Name, draw and label basic parts of the human body</p> <ol style="list-style-type: none"> 1. Name basic body parts confidently 2. Use pictures of basic body parts in correct places e.g. pictures of ears placed on the side of a blank face 3. Label parts of the human body 4. Draw external body parts in the correct place <p>Notice that humans, have offspring which grow into adults and the changes they experience through this growth</p> <ol style="list-style-type: none"> 1. Demonstrate an understanding that animals, including humans, have offspring 2. Demonstrate an understanding of the key changes for each stage of human development 3. Compare the changes that humans experience through different stages of their growth 	<p>Demonstrate a knowledge of the life cycles and life processes of a range of animals</p> <ul style="list-style-type: none"> • 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 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 to old age.
<p>All living things, their variations and their habitats</p>	<p>Identify which animals belong in which contrasting habitats</p> <ol style="list-style-type: none"> 1. Recognise common animals and match to toys and photos/symbols 2. Recognise habitats and match features of habitats through objects and photos/symbols 3. Sort animals into the appropriate contrasting habitats when given a choice, e.g. hot / cold <p>Demonstrate that mammals, reptiles and birds are different</p> <ul style="list-style-type: none"> • Investigate basic features of mammals (fur, 	<p>Begin to understand why animals live in particular habitats and their basic needs</p> <ol style="list-style-type: none"> 1. Identify the features of animals such as thick fur, long necks, patterns 2. Explore what each adaptation provides – keep warm, reach food, hide 3. Identify what an animal needs to live <p>Identify mammals, birds, reptiles and amphibians and some differences between species within the same family (e.g. How a crow is different to a peacock)</p> <ul style="list-style-type: none"> • Identify animals as mammals and name them 	<p>Describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other</p> <ol style="list-style-type: none"> 1. identify that most living things live in habitats to which they are suited 2. describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other 3. identify and name a variety of plants and animals in their habitats, including micro-habitats 	<p>Demonstrate a knowledge of how living things can be grouped and classified and how their environment influences them</p> <ul style="list-style-type: none"> • 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.

	<p>paws, skin, being warm blooded)</p> <ul style="list-style-type: none"> Investigate basic features of reptiles (scales, tails, legs, snake/chameleon tongues, eyes) Investigate basic features of birds (wings, feathers, beaks, feet) <p>1. Compare features of mammals, reptiles and birds</p>	<ul style="list-style-type: none"> Identify animals as birds and name them Identify animals as reptiles and name them Identify animals as amphibians and name them <p>1. Explain differences between species within a family</p>	<p>Describe and compare the structure (skeletons and their adaptations) of common animals and the purpose of these</p> <ul style="list-style-type: none"> Describe and compare variations within mammals (e.g. Anteaters have long claws and long tongues to get food, giraffes have long necks) Describe and compare variations within birds (e.g. different beak types for different foods) Describe and compare variations between reptiles (e.g. warning systems between rattle snakes and cobras) 	<ul style="list-style-type: none"> Investigate how environmental changes effects the life cycles of animals Describe the life process of reproduction in some plants and animals.
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Chemistry	Developing	Broadening	Blended	Pathway
Materials – variety and suitability	<p>Begin to match, group or find the same materials when given a choice (wet/dry hard/soft)</p> <ul style="list-style-type: none"> Match/group dry material to one other dry material Match/group wet material to one other wet material Match/group hard material to one other hard material Match/group soft material to one other soft material 	<p>Demonstrate a knowledge of a variety of everyday materials</p> <ol style="list-style-type: none"> Match material to a photo Match material to a symbol Match material to a word Can group objects and notice a difference between them (e.g. collect spoons and notice some are wood, plastic, metal) Can start to group same materials under a heading e.g. wood, metal, plastic, fabric 	<p>Describe a range of materials and their properties</p> <ol style="list-style-type: none"> Group an increasing range of materials under a heading Describe and compare materials Begin to list the properties of a range of materials Identify an appropriate material for a purpose, e.g. wood for a table 	<p>Demonstrate how materials can change through experimentation</p> <ol style="list-style-type: none"> Explore the differences between solids liquids and gases Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Demonstrate that some dissolving, mixing and changes of state are reversible changes Explain that some changes result in the

				<p>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.</p> <p>6. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p>
Experiments	<p>Notice patterns and make links between actions and effects</p> <ol style="list-style-type: none"> 1. Predict what will happen before experiencing a one-step cause and effect action. E.g., identify the bubble will pop before blowing 2. Explore two step cause and effect actions. e.g., press the switch and lights and music will start 3. Answer questions yes or no questions about the effect 4. Sequence what will happen before experiencing a multi-step cause and effect action 	<p>Take part in simple experiments, observing what has happened and predict what might happen next time</p> <ol style="list-style-type: none"> 1. Answer a what will happen if ... question 2. Identify what is needed to answer a question 3. Predict what will happen 4. Carry out a pre-planned experiment 5. Reflect on what happened 	<p>Plan and carry out own simple experiment</p> <ol style="list-style-type: none"> 1. Ask simple questions (hypothesis) and recognise that they can be answered in different ways 2. Predict what they think might happen and begin to give reasons for the answer 3. Use what they already know to suggest designs, concepts and material selections to plan an experiment 4. Perform simple experiments 5. Gather and record data to help answer their hypothesis 6. Reflect on simple ways to improve tests, designs and concepts 	<p>Follow practical scientific methods, processes and skills</p> <ol style="list-style-type: none"> 1. Ask relevant questions and use different types of scientific experiments to answer them 2. Set up simple practical experiments 3. Demonstrate comparative and fair tests 4. Make timely and careful observations and, where appropriate, taking accurate measurements 5. Gather, record, and present data in a variety of ways to help answer questions 6. Report findings from experiment 7. Use results to draw simple conclusions, suggest improvements and raise further questions