St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

Year Group	Term	Topic	Concepts	Skills	Knowledge	Vocabulary
EYFS Pre-School	**On-going throughout the year**			**Recording and Presenting Data** -To present results in simple drawings. **Asking Questions** -To begin to answer questions about things around them, familiar places, objects and people. (Who, What, Where).	-To begin to understand the language associated with changing materials (Squash, squeeze, push, rip, cut, roll, stretch - Dough Disco link). -To observe the weather and how it changes (daily calendar) -To know how to keep clean e.g. washing hands and brushing teeth (daily tooth brushing programme)	Squash, squeeze, push, rip, cut, roll, stretch Sunny, Rainy, Windy Snowy, hot, cold Germs, toothbrush, toothpaste, clean, brush, wash, soap
	Autumn 1	Myself		**Recording and Presenting Data** -To present results in simple drawings. **Asking Questions** -To begin to answer questions about things around them, familiar places, objects and people. (Who, What, Where).	-To know and name some external body parts (See vocab list). -To know that water and milk is healthy to drink.	Head, shoulders, knees, toes, legs, arms, ears, eyes, nose, mouth, tummy Water, Milk, healthy
	Spring 1	Weather		**Recording and Presenting Data** -To present results in simple tables or drawings. **Asking Questions** -To begin to answer questions about things around them,	-To know the names of different types of weather (Rainy, sunny, windy, snowy, cold, warm, and hot). -To begin to develop an understanding of change over time.	Sunny, Rainy, Windy Snowy, hot, cold Season, Autumn, Winter, Spring, Summer

				familiar places, objects and people. (Who, What, Where).		
	Spring 2	Growing		-To begin to notice similarities and differences in photos and real life experiences. **Recording and Presenting Data** -To make simple observations. -To begin to answer questions about things around them, familiar places, objects and people. (Who, What, Where). -To present results in simple drawings using ICT where relevant	-To know how they are different from when they were a baby. To know and talk about the basic human life cycle (Baby, child, adult). -To know and talk about the lifecycle of a butterfly. -To identify and name some plants we eat e.g. fruits and vegetables. -To know fruits and vegetables are healthy to eat. -To know a plant grows from a seed. -To be able to name and recognise the main parts of plant e.g. leaves, flower and petals. -To know plants need water to grow.	life cycle Baby, Child, Adult Egg, Caterpillar, Cocoon, Butterfly healthy, unhealthy, fruit, vegetables, Apple, Banana Pear, Strawberry, Carrots, Potatoes, Onions, Peas Leaf, leaves, Flowers Daffodil, Sunflower, Cress, seed, grow
	Summer 2	Traditional tales		**Making Measurements** -To make simple observations. **Recording and Presenting Data** -To present results in simple tables, using ICT where relevant **Asking Questions** -To begin to answer questions about things around them,	-To identify and name common materials that make objects (Wood and metal).	Wood, Metal, Material

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

				familiar places, objects and people. (Who, What, Where).		
	Summer 2	Animals		-To begin to notice similarities and differences in photos and real life experiences. **Asking Questions** -To begin to answer questions about things around them, familiar places, objects and people. (Who , What, Where).	-To name some common pets, zoo and farm animals.	Cow Sheep, Pig, Horse, Hen Tiger Lion, Elephant, Monkey, Giraffe, Dog, Cat, Rabbit , Hamster, Gold fish
Year Group	Term	Topic	Concepts	Skills	Knowledge	Vocabulary
EYFS Reception	Ongoing	Seasonal change (Across the year) Autumn, winter, spring and summer topics		**Asking Questions** -To answer questions about aspects of the natural world (Who, what, where, why and how) **Making Measurements** -To observe closely using appropriate senses and simple equipment e.g. magnifying glasses. **Recording and Presenting Data** -To present results in simple tables or simple drawings, using ICT where relevant	Seasonal change also covered through daily Calendar -To know and name the four seasons in the year. -To know what the weather is like in each of the four seasons. -To observe and talk about the changes they can see. -To recognise and talk about the signs of the different seasons. -To know that trees lose their leaves and change colour in autumn. -To know that trees and plants grow leaves and flowers in spring.	Seasons, autumn, spring, summer, winter. Sunny, rainy, windy, snowy, cloudy, frosty, icy, hailstone, thunder, lightning. Trees, leaves, blossom, flowers.

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

	Autumn 1	Marvellous Me!		**Making Measurements** -To observe closely using appropriate senses and simple equipment e.g. magnifying glasses. **Recording and Presenting Data** -To begin to observe closely, using appropriate senses and simple equipment. **Answering Questions using Data** -To recognise similarities and differences between living things and objects.	-To know and name some external and internal body parts. -To know that humans have a skeleton and it is made of bones. -To know and name some foods which are healthy to eat. -To know and name some foods which are unhealthy to eat. -To know humans need to drink water to stay healthy. -To know when and why we need to wash our hands. -To know exercise keeps our bodies healthy. To name some ways to keep our body fit and healthy. -To know how to keep our teeth healthy. -To know sleep is important to keep our body and mind healthy.	Head, shoulders, knees, toes, legs, arms, back, ears, eyes, nose, mouth, eyebrows, eyelashes, fingers, cheeks, stomach, elbow. Skeleton, bones, spine, kneecap, skull, ribs, hips. Healthy, unhealthy, fruit, vegetables. Germs, tooth decay, exercise, grow, growth.
	Autumn 2	Autumn Light and Dark		**Asking Questions** -To answer questions about aspects of the natural world (Who, what, where, why and how) **Making Measurements** -To begin to observe closely, using appropriate senses and simple equipment. -To collect and sort evidence with support to try to answer a question.	Seasonal change also covered through daily Calendar -To know and name the 4 seasons in the year. -To know what the weather is like in each of the four seasons. -To observe and talk about the changes they can see. -To recognise and talk about the signs of the different seasons. -To know that trees lose their leaves and change colour in autumn. -To know and name some nocturnal animals.	Seasons, autumn, spring, summer, winter. Sunny, rainy, windy, snowy, cloudy, frosty, icy, hailstone, thunder, lightning. Trees, leaves, conkers, pinecones. Nocturnal, owls, badgers, bats, hedgehog.

				Recording and Presenting Data -To present results in simple drawings, using ICT where relevant **Answering Questions using Data** -To recognise similarities and differences between living things and objects		
	Spring 1	The world around us (cold places)		**Asking Questions** -To begin to ask questions to find out information on topics that interest them. **Making Measurements** -With support perform simple tests. -To observe closely using appropriate senses and simple equipment e.g. magnifying glasses. -To collect and sort evidence with support to try to answer a question. **Recording and Presenting Data** -To present results in simple tables, drawings, block graphs using ICT where relevant	-To be able to name some Arctic and Antarctic animals -To know that water can be a liquid or a solid. -To know you need to freeze water to make it a solid. -To know you need to heat ice (Solid water) to make it a liquid again. -To know other materials melt. -To know that some materials float or sink -To know that floating means to stay on top of the water. -To know that sinking means that the object goes to the bottom of the water.	Arctic, Antarctica, Polar regions, polar bears, penguins, arctic hare, arctic fox, huskies, Inuit, icebergs, icicles. Liquid, solid, freeze, melt. Floating, sinking, zero degrees.

				Answering Questions using Data -To recognise similarities and differences between living things and objects		
	Spring 2	House and Homes		**Making Predictions** -With support say what they think might happen. **Making Measurements** -With support perform simple tests. -To observe closely using appropriate senses and simple equipment e.g. magnifying glasses. -To begin to observe closely, using appropriate senses and simple equipment. -To collect and sort evidence with support to try to answer a question. **Recording and Presenting Data** -To present results in simple tables, drawings, block graphs using ICT where relevant	-To identify and name some common materials that make objects (wood, plastic, metal and fabric). -To know some properties of common materials (hard, soft, rough, smooth). -To know that you can group materials/ objects according to their properties. -To know that some metals are magnetic- they are attracted to magnets. -To know some materials are water proof.	Materials, object, wood, plastic, metal, fabric. Hard, soft, rough, smooth, magnetic, aluminium, waterproof, not waterproof, group, sort.
	Summer 1	Growing (Humans)		**Making Measurements** -To begin to observe closely, using appropriate senses and simple equipment.	-To know that we are called humans. -To know and recall the human life cycle (baby, toddler, child, teenager, adult, old person)	Humans, lifecycle, baby, toddler, child, teenager, adult, old person

				Recording and Presenting Data -To present results in simple drawings, using ICT where relevant **Answering Questions using Data** -To recognise similarities and differences between living things and objects	-To know humans change over time.	
	Summer 1	Growing (Plants)		**Asking Questions** -To answer questions about aspects of the natural world (Who, what, where, why and how) **Making Predictions** -With support say what they think might happen. **Making Measurements** -With support perform simple tests. -To begin to observe closely using appropriate senses and simple equipment e.g. magnifying glasses. **Recording and Presenting Data** -To present results in simple drawings, using ICT where relevant	-To identify and name some common garden plants and some plants we eat. -To know a plant grows from either a seed or a bulb. -To label the basic parts of a flowering plant e.g. leaf, root, stem and flower. -To know plants need water and sunlight to grow healthy. -To describe the lifecycle of a frog and a hen.	Plants, fruit, sunlight, water, vegetables, seed, bulb, leaf, leaves, root, stem, flower, petals, daffodil, dandelion, buttercup, daisy, sunflower, lifecycle, chick, egg, frog spawn, froglet.

				Answering Questions using Data -To recognise similarities and differences between living things and objects		
	Summer 1/2	Growing (Mini-beasts)		**Asking questions** -To begin to ask questions to find out information on topics that interest them. -To answer questions about aspects of the natural world (Who, what, where, why and how) **Making Measurements** -To begin to observe closely, using appropriate senses and simple equipment. **Recording and Presenting Data** -To present results in simple drawings, using ICT where relevant **Answering Questions using Data** -To recognise similarities and differences between living things and objects	-To recognise and name some common mini-beasts found on the school grounds. -To know that insects have wings, 6 legs and antennae. -To know that a spider has 8 legs, no wings and no antennae. -To know that some spiders have webs.	Mini-beasts, worm, snail, slug, spiders, wasps, bumble bee, insects, ladybird, ant, butterfly, legs, antennae, wings.

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

Year Group	Term	Topic	Concepts	Skills	Knowledge	Vocabulary
Years 1 & 2	**Ongoing throughout the year**	**Seasonal Change**	**Physics**	**Asking Questions** -To ask simple questions and recognise that they can be answered in different ways **Making Predictions** -To say what they think might happen (with support) **Making Measurements** -To observe closely, using appropriate senses and simple equipment. -To collect evidence to try to answer a question -To make some Measurements of length using standard and non-standard measures -To collect evidence to try to answer a question **Recording and Presenting Data** -To make records of observations -To present some findings/results in tables, drawings and block graphs, using ICT where relevant	**To observe changes across the four seasons** **To observe and describe weather associated with the seasons and how day length varies** What are the 4 seasons and which months do they occur? -To find out about the different seasons and how they are different -To name the 4 seasons **-To know which months the four seasons occur** -To investigate the weather during the 4 seasons -To observe, record and describe the weather in each of the 4 seasons -To measure the temperature using standard and non-standard measure -To find out how the day length is affected by the seasons -To observe how the length of the days change over the seasons **-To know in which months the day gets shorter and when they start to get longer** – why do the clocks go back / forwards 1 hour in Autumn / Spring?	**Core Vocabulary** temperature hours of daylight hibernate migrate **Other Vocabulary** seasons, autumn, winter, spring, summer, weather, daylight, month **Autumn:** September, October, November **Winter:** December, January, February **Spring:** March, April, May **Summer:** June, July, August

					How do the seasons influence what we wear? -To find out about how humans are affected by the seasons **- describe changes in the clothes worn during the 4 seasons and why** How do the seasons influence the plants? **-To describe the effect the 4 seasons has on plants** -To observe plant growth, plants seen, deciduous / evergreen trees How do the seasons influence the animals that we see in the environment? -To find out about how animals are affected by the seasons **-To describe the animals over the four seasons – migration / hibernation**	
Years 1 & 2	**Autumn 1**	**Plants**	**Biology**	**Asking Questions** -To ask simple questions and recognise that they can be answered in different ways -To suggest some ideas and questions based on simple knowledge	**To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees** -Which flowers can be found in our school grounds? -To find out what a plant is -To identify and describe garden plants -To identify and describe wild plants	**Core Vocabulary** seeds bulb seed dispersal germination **Other Vocabulary** wild plants, garden plants, green plants,

				Making Predictions -To say what they think might happen. **Enquiry or Investigation** -To say how they might find out about ideas and questions that they suggest. -To think about and discuss whether comparisons and tests are fair or unfair with/out support. **Making Measurements** -To make some Measurements of length using standard and non-standard measures. **Recording and Presenting Data** -To make records of observations -To present results in tables, drawings and block graphs using ICT where relevant **Answering Questions using Data** -To say what results will show. -To say whether their Predictions were supported. **Drawing Conclusions**	Which trees can be found in our school grounds? -To identify and describe a range of trees **To identify and describe the basic structure of a variety of common flowering plants, including trees** -To identify the different parts of a plant **To observe and describe how seeds and bulbs grow into mature plants** How do flower beds change after we plant bulbs/seeds? -To understand that plants can be grown from seeds or bulbs **-To understand that different seeds grow into different plants** -To make observations of growing plants -To observe and describe how plants grow **-To begin to describe how plants mature and reproduce** **To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy** **-To find out what plants need to grow**	common flowering plants, weed, tree, deciduous, evergreen, roots, stem, leaves, bud, flowers, petals, fruit, berry, seed, bulb, blossom, bloom, crown, trunk, branch, bark, stalk, twig Wild plants: dandelion, daisy, buttercup, nettles, ivy, dog rose, clover, brambles, bluebell, poppy Names of wild flowering plants in the local area Garden plants: fuchsia, pansy, sweet pea, sunflower, rose, lavender, iris, holly Names of garden plants in the local area Trees: cedar, horse chestnut, oak, rowan

				-To draw simple conclusions and explain what they did	**-To find out what plants need to stay healthy** -To plan, carry out and evaluate an investigation into the conditions that affect germination **Possible Scientific Enquiry** **Identifying & Classifying** -Which wildflowers can we find in our school grounds? -Which tress are found in our school grounds? **Observing over Time** -What happens to a bulb after it has been planted? -How does my bean seed change over time? -Do larger bulbs grow into bigger plants? **Comparative and Fair Testing**	Names of trees in the local area sprout, shoot, life cycle, sunlight, water, temperature, nutrition Life cycle: seed or bean, germination, roots, leaves, flowers, fruit, seed dispersal, dies
Years 1 & 2	**Spring 1**	**Animals**	**Biology**	**Asking Questions** -To ask simple questions and recognise that they can be answered in different ways. -To test ideas suggested to them and say what they think will happen with/out support.	**To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.** **To identify and name a variety of common animals that are carnivores, herbivores and omnivores**	**Core Vocabulary** carnivore herbivore omnivore offspring reproduce

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

				Making Predictions -To say what they think might happen with support **Enquiry or Investigation** -To say how they might find out about ideas and questions that they suggest **Making Measurements** -To perform simple tests. -To observe closely, using appropriate senses and simple equipment. **Recording and Presenting Data** -To make records of observations -To present results in tables, drawings and block graphs using ICT where relevant **Answering Questions using Data** -To say what their observations show -To say what their results show -To say whether their Predictions were supported	-To know the difference between carnivores, herbivores and omnivores **To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)** **To notice that animals, including humans, have offspring which grow into adults** **-To know that animals including humans reproduce to create offspring which grow into adults** -To know the names of some offspring -To know and describe simple lifecycles- Hen, Butterfly, Frog, Cow, Human **To find out about and describe the basic needs of animals, including humans, for survival (water, food and air)** **-To know what animals including humans, need to survive** -To know that animals and humans are living things	**Other Vocabulary** common, animals, fish, amphibians, reptiles, birds, mammals, environment, domestic animals, wild animals, living, non-living Mammals: human, mouse, dog, cow Birds: penguin, chicken, seagull, robin Fish: goldfish, tuna, shark, eel Reptiles: snake, tortoise, lizard, alligator Amphibians: frog, toad, newt, salamander Names of animals experienced first-hand from each vertebrate group adult, develop, lifecycle, young, live young, basic needs,

					Possible Scientific Enquiry **Pattern Seeking** -Do more of the birds that visit our playground eat plants or animals? **Researching using Secondary Sources** -What do different animals eat? -What are the offspring of different animals called? -What are the needs of different animals for survival?	alive, air, water, food, dehydrate, diet, disease Life cycle: baby, toddler, child, teenager, adult, elderly
Years 1 & 2	**Summer 1**	**Materials**	**Chemistry**	**Asking Questions** -To ask simple questions and recognise that they can be answered in different ways -To suggest some ideas and questions based on simple knowledge **Making Predictions** -To say what they think might happen with/out support **Enquiry or Investigation** -To say how they might find out about ideas and questions that they suggest with/out support. -To think about and discuss whether comparisons and tests	**To distinguish between an object and the material from which it is made** **-To know what an object is** (link to nouns in English) eg, cup, table, book **-To know what a material is** – what an object is made out of (link to adjectives in English) eg. Wood (wooden table), plastic (plastic cup), paper (paper book) **To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock** -To identify and name common materials that objects are made from – write lists, match objects to labels, sort objects and materials etc	**Core Vocabulary** natural man-made opaque transparent absorbent **Other Vocabulary** material, bendy, dull, hard, rough, shiny, smooth, soft, stiff, stretchy, waterproof, object, brick, card, cardboard, clay, elastic, fabrics, foil, glass, metal, paper, plastic, rock, rubber, water, wood, wool

				are fair or unfair with/out support **Making Measurements** -To perform simple tests -To observe closely, using appropriate senses and simple equipment -To collect evidence to try to answer a question -To make some Measurements of length using standard and non-standard measures **Recording and Presenting Data** -To make records of observations -To present results in tables, diagrams, drawings, block graphs using ICT where relevant **Answering Questions using Data** -To say what their observations / results will show -To say whether their Predictions were what they expected	-To know that some materials are 'natural' – found in nature and others are 'man-made' – produced by humans -To sort natural and man-made materials **To describe the simple physical properties of a variety of everyday materials** **-To use words to describe materials according to their properties** eg rough, hard, soft, stretchy **To compare and group together a variety of everyday materials on the basis of their simple physical properties** -To compare and group materials by answering questions – Hard or Soft? Waterproof or Not Waterproof? Etc **To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses** **-To know materials are used for different purposes based on their properties** eg. wood can be used to make furniture, doors, tables and floors	

					- To suggest why a material has been chosen for a particular purpose - To identify materials that are appropriate for certain uses and offer alternatives - To explain why a particular material is chosen to be made into an object **-To know that some objects can be made from various materials** eg a spoon can be made from plastic, wood or metal etc **To find out about how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching** -To know that some materials can change shape - To explore how the shape of materials can be changed - To identify materials that cannot change shape at all, those that change shape temporarily and those that once the shape has been changed, it can't be changed back (reversible and irreversible changes) -To know about the inventors of some man-made materials and the uses of the material	

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

					Possible Scientific Enquiry **Identifying and Classifying** -What is the best material to make …? -Which materials are absorbent? -Which materials are suitable for making a coat? -Which material would be best for a tent covering? **Comparative and Fair Testing** -How good are each of these cloths at mopping up a spill? -Which is the stretchiest material for Elastiboy's new costume? **Not a Scientific Enquiry** -Can these objects be sorted? -How can the shape of these materials be changed?	
Year Group	Term	Topic	Concepts	Skills	Knowledge	Vocabulary
Years 3 & 4	**Autumn 1**	**Humans**	**Biology**	**Asking Questions** -In a variety of contexts, to suggest questions and ideas and how to test them **Enquiry or Investigation** -To design a fair test -To think about how to collect sufficient evidence -To think about why observations and	**To 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.** -To know animals/humans get nutrition form what they eat -To know the different food groups -To know which foods are for growth and energy	**Core Vocabulary** Digest Canine Incisor Molar Producer Consumer

				measurements should be repeated -To choose what apparatus to use and what to measure **Making Measurements** -To make systematic and careful observations and comparisons -To take accurate Measurements using standard Measurements effectively **Recording and Presenting Data** -To record findings using simple scientific language, drawings, labelled diagrams, using ICT where relevant -To report on findings from enquiries, including oral and written explanations, displays or presentation of results and conclusions **Answering Questions using Data** -To make generalisations and begin to identify simple patterns in results presented in tables and suggest explanations for some of these **Drawing Conclusions**	-To know what is meant by a balanced diet -To know that a balanced diet is needed in order to stay healthy -To know which food groups we need to eat most/least of -To know what is meant by the terms herbivore, carnivore and omnivore **To construct and interpret a variety of food chains, identifying producers, predators and prey.** -To know that a food chain is a way to show the direction in which energy moves from the producer to the various consumers to the top or tertiary consumer -To know what the terms producer and consumer mean -To be able to interpret food chains -To be able to construct food chains -To understand why plants are at the start of a food chain **To identify the different types of teeth in humans and their simple functions.** -To identify the different types of human teeth -To understand that the shape of teeth makes them useful for different purposes -To recognise why animals might have different types of teeth	**Other Vocabulary** healthy, nutrients, energy, saturated fats, unsaturated fats, carbohydrate, protein, fibre, fats, vitamins, minerals, water digestive system, oesophagus, stomach, small intestine, large intestine, rectum, teeth, carnassial teeth, premolar, mouth, salivary gland, liver, gallbladder, duodenum, tongue, pancreas, anus, food chain, herbivore, carnivore, omnivore, primary consumer, secondary consumer, tertiary consumer, predator, prey

				-To draw simple conclusions from results and begin to use scientific knowledge and evidence to answer questions, or to suggest explanations for them and to support their findings **Evaluating the Enquiry or Investigation** -To explain and reflects on the investigation	-To describe the structure of a tooth -To know that humans have two sets of teeth during their lifetime -To know why it is important to look after your teeth -To know what plaque is and the effect it has on teeth -To understand what tooth decay is and explain why it happens **To describe the simple functions of the basic parts of the digestive system in humans.** -To know the names of the organs associated with digestion -To know and describe the basic functions of the organs associated with digestion -To know and describe the process of digesting food **Possible Scientific Enquiry** **Pattern Seeking** -Do the tastiest biscuits contain more fat? **Researching using Secondary Sources** -What types of food provide the different nutrients?	

					-What are the names and functions of the different parts of the digestive system? **Identifying and Classifying** -How many of the different types of teeth does my partner have?	
Years 3 & 4	**Autumn 2**	**Magnets and forces**	**Physics**	**Asking Questions** -In a variety of contexts, to suggest questions and ideas and how to test them **Making Predictions** -To make Predictions about what will happen **Enquiry or Investigation** -To consider what makes a fair test -To think about how to collect sufficient evidence **Making Measurements** -To gather and record evidence in a variety of context to answer a question or test an idea -To make systematic and careful observations and comparisons -To take accurate Measurements using standard	**To compare how things move on different surfaces** -To know that forces can be measured in Newtons using a force meter **To notice that some forces need contact between two objects, but magnetic forces can act at a distance** **-To know that some forces need contact between two objects** –To know that's some forces do not need contact between objects, including gravity and magnetism -To know that a push or a pull is a force **To observe how magnets attract or repel each other and attract some materials and not others** **-To know how magnets work** -To know that there are forces between magnets that don't need contact between two objects	**Core Vocabulary** attract repel magnetic field resistance **Other Vocabulary** forces, friction, surface, pushes, pulls, motion, grass, gravel, sand, road, magnet, magnetic, non-magnetic, poles, iron, nickel, cobalt, metal grip, drag, gravity, motion, opposite, position

				units of measure and measuring equipment -To make generalisations and begin to identify simple patterns in results presented in tables **Recording and Presenting Data** -To gather, record, classify and present data in a variety of ways to help in answering questions -To record findings using simple scientific language, drawings, labelled diagrams using ICT where relevant **Drawing Conclusions** -To draw simple conclusions from results and begin to use scientific knowledge and evidence to answer questions	**To 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** -To know and group objects on the basis of whether they are magnetic or not **To describe magnets as having two poles** **-To know magnets have poles** **-To know that opposite poles attract and similar poles repel** **To predict whether two magnets will attract or repel each other, depending on which poles are facing** **Possible Scientific Enquiry** **Comparative and fair testing** How does the surface affect the distance at which a magnet attracts a paperclip?	
Years 3 & 4	**Spring 1**	**Sound**	**Physics**	**Asking Questions** -To suggest relevant questions based on scientific knowledge that can be tested and suggest how to test those, using different types of scientific enquiry	**To identify how sounds are made, associating some of them with something vibrating** **-To know what a sound is** -To know that the object making a sound is known as a source	**Core Vocabulary** vibrating sound wave amplitude frequency

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

				Making Predictions -Make Predictions of what will happen based on scientific knowledge and understanding **Enquiry or Investigation** -To design a fair test -To plan how to collect sufficient evidence -To think about why observations and Measurements should be repeated -To choose what apparatus to use and what to measure **Making Measurements** -To gather and record evidence/data in a variety of contexts to test an idea or prediction based on their scientific knowledge -To make systematic observations and comparisons of relevant features -To take accurate Measurements **Recording and Presenting Data** -To gather, record, classify and present data in a variety of ways to help answer questions -To record findings using simple scientific language, drawing, labelled diagrams,	**-To know that sounds are made when an object or material vibrates** -To know that air vibrations around an object enter your ear as sound waves -To know that if an object is making a sound, it is vibrating, even if you can't see the vibrations **To recognise that vibrations from sounds, travel through a medium to the ear** -To know how we hear sounds -To know how sound travels **-To know that sound can travel through solids, liquids and gases** -To know that some materials allow sound to pass through them more easily than others -To know why it is sometimes necessary to prevent sounds from travelling **To find patterns between the pitch of a sound and features of the object that produced it** **-To know that the term 'pitch' describes how high or low a sound is** -To know that 'high pitch' sounds are created by short sound waves -To know that 'low pitch' sounds are created by long sound waves	**Other Vocabulary** ear, eardrum, particles, distance, soundproof, absorb sound, vacuum, eardrum, vibration, particles, volume, pitch, high pitch, low pitch, decibel, energy, medium, power, source, transmit, travel

				classification keys, bar charts and tables using ICT where relevant -To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions **Drawing Conclusions** -To explain what the evidence shows by drawing simple conclusions and begin to use scientific knowledge and evidence to say whether it supports any prediction made -To make Predictions for new values **Evaluating** -To explain and reflect on the investigation and say how to improve	-To recognise changes in pitch and identify high and low notes -To understand how pitch and volume may be altered by a variety of different instruments or resonant objects **To find patterns between the volume of a sound and the strength of the vibrations that produced it** **-To know how sounds change dependant on the amount of energy used to create it** eg. A small tap of a hammer, compared to a powerful, smashing of a hammer -To know how we measure sound -To describe the difference between amplitude, decibels and frequency **To recognise that sounds get fainter as the distance from the sound source increases** -To know that sounds get fainter as the distance from the sound source increases **Possible Scientific Enquiry** **Observing over time** -How does the level of sound in the classroom vary through the day?	

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

					Comparative and fair testing -How much do different fabrics muffle sound? -How does the volume of a sound change as you move away from the sound source?	
Years 3 & 4	**Spring 2**	**Habitats and classification**	**Biology**	**Asking questions** -In a variety of contexts suggest relevant questions and ideas and how to test them **Making Measurements** -Gather and record evidence in a variety of contexts to answer a question **Recording and Presenting Data** -To gather, record, classify and present data in a variety of ways to help in answering questions -To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions **Answering Questions using Data** -To make generalisations and identify simple trends and patterns in results presented in tables, charts and graphs and	**To recognise that living things can be grouped in a variety of ways including plants (Flowering and non-flowering for example, seeds no seeds)** -To know that all living things are also known as organisms -To know that living things have to do certain things to stay alive -To know that living things can be grouped according to different criteria **-To know what a vertebrate is** **-To know what an invertebrate is** **-To know an invertebrate can be grouped 5 ways: fish, amphibian, reptile, bird, mammal** -To know an invertebrate can be grouped 3 ways: insect, arachnid, mollusc -To know how to spot a fish, bird, reptile, amphibian, mammal, insect, arachnid and mollusc -To know plants can be put into one of two groups: flowering or non-flowering **-To know the difference between a flowering and non-flowering plant**	**Core Vocabulary** classification vertebrates invertebrates urbanisation deforestation **Other Vocabulary** carnivore, herbivore, omnivore, specimen, biomes, characteristics, mammals, fish, birds, reptiles, amphibians, insects, spiders, worms, slugs, snails, legs, pincers, segmented body, shell, flowering plants, non-flowering plants, organisms, life processes, movement, respiration, sensitivity, growth, reproduction,

				to suggest explanations for some of these **Drawing Conclusions** -To explain what the evidence shows by drawing simple conclusions	**To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment** -To know and group a variety of animals according to their characteristics -To know and group a variety of plants according to their characteristics -To know how to use a classification key **-To know how to use classification keys to identify and sort known living things (animals and plants, including tress) into groups** -To know how to create and make their own classification key to help identify a plant or animal **To recognise that environments can change and that this can sometimes pose dangers to living things** -To know what the environment is -To know what a habitat is -To know that habitats can change -To know what can cause a change in a habitat, eg. seasons, weather, humans -To know that animals and plants live in habitats that are suited to their needs	excretion, nutrition, habitat, environment, endangered species, extinct, changes, natural, human-made, positive effect, negative effect, earthquakes, storms, floods, droughts, wildfires, the seasons, pollution, animal species, plant species, nature reserves, classification key, deciduous, evergreen, excretion, food chain, minibeast, vegetation

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

					-To know the impact a change can have on an environment/habitat ie. the plants and animals that live there -To know how humans can have a positive effect on the environment -To know how humans can have a negative effect on the environment **Possible Scientific Enquiry** **Pattern seeking** -How much litter is there on our playgrounds? -How do the seasons affect the animals living in our pond?	
Years 3 & 4	**Summer 1&2**	**States of matter and the Water Cycle**	**Chemistry**	**Making Predictions** -To make Predictions about what will happen, some of which are based on scientific knowledge **Enquiry or Investigation** -To design a fair test -To plan how to collect sufficient evidence -To think about why observations and Measurements should be repeated -To choose what apparatus to use and what to measure	**To compare and group materials together, according to whether they are solids, liquids or gases** -To know what a solid is -To know what a liquid is -To know what a gas is **-To know what a particle is and how they act/are arranged in a solid, liquid or gas** **To 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)**	**Core Vocabulary** states of matter particles melting evaporation condensation precipitation **Other Vocabulary** solids, liquids, gases, water vapour, point, melt, freeze, evaporate, condense, cooling, freezing, freezing point, heating, process,

				Making Measurements -To make systematic observations -To take accurate Measurements of temperature using standard units of measure -To use a range of equipment, including thermometers and data loggers **Recording and Presenting Data** -To record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables, using ICT where relevant **Drawing Conclusions** -To explain what the evidence shows by drawing simple conclusions	**-To know what is meant by 'change state'** -To know solid to liquid is 'melting' -To know liquid to gas is 'evaporation' -To know gas to liquid is 'condensation' -To know liquid to solid is 'freezing' -To know water goes solid below 0°C and turns to steam and boils at 100 °C -To know that different liquids have different freezing and melting points. -To understand that temperature affects the rate at which materials change -To know temperature is measured in degrees centigrade **To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature** **-To know that gases are formed when liquid evaporates** **-To know that condensation is when a gas turns into a liquid** **-To know that condensation is the reverse of evaporation** **-To name the process of the water cycle**	properties, temperature, vibrations, water cycle, droplets, water vapour

St Gabriel's Catholic Primary School – Science Curriculum Mapping and Progression of Skills Cycle B

					Possible Scientific Enquiry **Comparative and fair testing** -Do large and small chocolate buttons take the same amount of time to melt? -How can we dry socks more quickly **Researching and using secondary sources** -What is the melting point of different materials?	
Year Group	Term	Topic	Concepts	Skills	Knowledge	Vocabulary
Years 5 & 6	**Autumn 1**	**Classification** **Living things and their Habitat**	**Biology**	**Asking Questions** -Begin to ask questions and develop a line of enquiry based on observations of the real world -To know how to turn a question or idea into a form that can be tested **Making Predictions** -To make Predictions of what will happen based on scientific knowledge and understanding **Enquiry or Investigation** -To plan a fair test using previous knowledge and understanding	**To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals** -To identify the similarities and differences between similar organisms -To know what a micro-organism is **-To know how to classify organisms according to broad characteristics, animal, plants and micro-organisms** **- To know how to group organisms according to their observable characteristics** (wings, no wings, tails, no tails, legs, no legs, etc) and explain the criteria they used to sort them	**Core Vocabulary** Characteristics classify microorganism The Linnaeus System **Other Vocabulary** taxonomist, key, qualities, appearances, individual, sort, group, similarities, differences, different, identify, decide, question, Carl Linnaeus, 8 levels:- Domain: Eukarya Kingdom: Animalia Phylum: Chordata

				-To identify factors that need to be taken into consideration in different contexts -To collect sufficient evidence to test an idea **Making Measurements** -To make a variety of relevant observations -To decide when observations and Measurements need to be checked -To consider how scientists have combined evidence from observation and measurement with creative thinking to suggest new ideas and explanations for phenomena **Recording and Presenting Data** -To record data and results of increasing complexity using scientific diagrams and labels, tables and bar charts and line graphs using ICT where relevant-To report and present findings from enquiries, including conclusions, in oral and written forms **Answering Questions using Data** To decide whether results support any prediction	**-To know groups can be divided (subdivided) into sub-divisions because of the organisms similarities and differences.** -To know animals can be broadly grouped as vertebrate and invertebrate -To know and describe the common characteristics for the different vertebrate and invertebrate groups -To know and identify similarities and differences between similar organisms such as the bird or mammal group -To know that plants can be sorted into groups according to their observable characteristics **-To know that plants can be grouped into 2 broad groups – flowering and non- flowering plants, or vascular and non-vascular** -To know the difference between flowering and non-flowering plants -To know that trees can be grouped into broad groups – evergreen and deciduous -To use observable characteristics of trees to identify them (leaf shape, bark, seeds, etc) -To know that micro-organisms can be classified into groups -To know that some micro-organisms can be harmful	Class: Mammalia Order: Carnivora Family: Canidae Genus: Canis Species: Lupus, scientists, observe, understand, bacteria, single-celled, microscope, mould, yeast, species, reproduce, produce, fertile, offspring, microbes, yeast, virus, fungi, penicillium, dust mites, phytoplankton

				-To recognise and make Predictions from patterns in data and suggest explanations for these, using scientific knowledge and understanding -To interpret data and think about whether it is sufficient to draw conclusions **Drawing Conclusions** -To use results to draw conclusions and to make further Predictions -To say whether the evidence supports any prediction made	-To know that some micro-organisms can be helpful **To give reasons for classifying plants and animals based on specific characteristics** **-To know about Taxonomy and Carl Linnaeus and his classification system** **Possible Scientific Enquiry** **Observing over Time** How does a loaf of bread change if left in a sealed bag? **Identifying and Classifying** Which groups of animals live in the park? What plants grow in the local area? **Comparative and Fair Testing** Does buttered bread grow mould more quickly than bread with jam on it? **Researching using Secondary Sources** What are the key characteristics of the five vertebrate groups? What are the key characteristics of some invertebrates?	
Years 5 & 6	**Autumn 2**	**Life Cycles**	**Biology**	**Asking Questions** -To ask questions and develop a line of enquiry based on observations of the real world	**To describe the differences in the life cycle of a mammal, an amphibian, an insect and a bird**	**Core Vocabulary** sexual reproduction asexual reproduction metamorphosis

		Living things and their Habitat		**Making Predictions** -To make Predictions using scientific knowledge and understanding **Enquiry or Investigation** -To decide how to turn ideas into a form that can be tested -To identify factors that are relevant to a particular situation -To choose what evidence to collect to investigate a question, ensuring the evidence is sufficient -To choose what equipment to use **Making Measurements** -To make a variety of relevant observations and Measurements using a range of scientific equipment, with increasing accuracy, taking repeat readings where appropriate -To decide when observations and Measurements need to be checked, by repeating, to give more reliable data -To consider how scientists have combined evidence from observation and measurement with creative thinking to	-To know different animal species reproduce in different ways and have different life cycles due to the environment they live in -To know what fertilisation is -To know what an embryo is **-To know the life cycle s of mammals, birds, amphibians and insects have similarities and differences** **-To know that amphibians and insects go through metamorphasis** -To know life cycles for a baby, chicken, frog, butterfly or frog, chicken, salmon, butterfly, dragonfly and dog -To know the gestation period in different animals -Do bigger animals have longer lifespans? **To describe the life process of reproduction in some plants and animals** **-To know flowering plants reproduce by sexual reproduction** -To know and identify the parts of flowers and the function they play in sexual reproduction -To know sexual reproduction in plants needs pollen (male cells - gametes) and ovules (female sex cells - gametes) for fertilisation to happen	germination **Other Vocabulary** fertilise, gestation, life cycle, pollination, reproduction, seed, bulb, dispersed, embryo, flower, function, mature, anther, stamen, style, ovary, ovule, petal, plant, pollen, stigma, fuses, gametes, cells, structure, gestation period

				suggest new ideas and explanations for phenomena **Recording and Presenting Data** -To record data and results of increasing complexity using scientific diagrams and labels, tables and bar charts and line graphs using ICT where relevant -To report and present findings from enquiries, including conclusions, in oral and written forms **Answering Questions using Data** -To make comparisons -To evaluate repeated results -To identify patterns in results that do not appear to fit the pattern -To identify scientific evidence that has been used to support or refute ideas and arguments **Drawing Conclusions** -To use results to draw conclusions -To say whether the evidence supports any prediction made	-To know and describe the life process of sexual reproduction in flowering plants: Germination, fertilisation, seed dispersal -To know what asexual reproduction is **-To know some ways in which plants reproduce asexually**: bulbs, tubas, runners, rhizomes -To know and describe the life cycles of some asexually reproducing plants -To know the advantages and disadvantages for sexual and asexual reproduction in plants -To know some of the ways in which sexual reproduction in animals occurs – Internal and external sexual reproduction **-To know that some animals reproduce internally and some reproduce externally** -To know how most mammals reproduce (placental mammals, marcupials, monotremes) - To find out about the work of naturalists and animal behaviourists - To know Sir David Attenborough and Jane Goodall have dedicated their lives to studying the natural world and communicating their findings **Possible Scientific Enquiry** **Observing over time**	

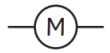
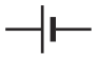
					-What happens to chick eggs as they develop and hatch into chicks? -How does a seed develop into a plant? **Pattern seeking** -Do bigger animals have a longer gestation period than smaller animals? **Researching using Secondary Sources** -How do the life cycles of a robin and a partridge compare? -What role do insects play in the life cycle of flowering plants? -How do the life cycles of different animals compare?	
Years 5 & 6	**Spring 1**	**Evolution and Inheritance**	**Biology**	**Asking Questions** -To ask questions and develop a line of enquiry based on observations of the real world **Making Predictions** -To make Predictions using scientific knowledge and understanding **Enquiry or Investigation** -To choose what evidence to collect to investigate a question, ensuring the evidence is sufficient **Making Measurements**	**To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago** -To know about how the work of scientists has helped develop our understanding of the process of evolution (Charles Darwin & Alfred Wallace) -To know what fossils are and how they are formed -To be able to identify fossilised remains **-To know what we can find out from fossils**	**Core Vocabulary** adaptive traits inherited traits evolution maladaptation palaeontology **Other Vocabulary** offspring, parents, inheritance, variations, characteristics, adaptation, habitat, environment, reproduction, polar regions, deserts,

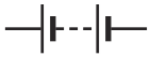
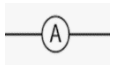
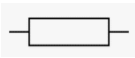
				-To consider how scientists have combined evidence from observation and measurement with creative thinking to suggest new ideas and explanations for phenomena **Recording and Presenting Data** -To report and present findings from enquiries, including conclusions, in oral and written forms **Answering Questions using Data** -To identify scientific evidence that has been used to support or refute ideas and arguments **Drawing Conclusions** -To use results to draw conclusions -To say whether the evidence supports any prediction made	-To know how the fossil record helps us understand evolutionary relationships -To know what a palaeontologist is and the work they do (Mary Anning) **To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents** -To know that animals produce offspring that are like themselves -To know offspring inherit traits from their biological parents -To know what inherit means -To know offspring vary and are not identical to biological parents unless asexual reproduction has occurred -To know and explain why variation in offspring occurs **To identify how animals and plants are adapted to suit their environment in different ways and that adaption may lead to evolution** **(Link to RSE work in year 5)** -To know what is meant by adaptation **-To know how animals and plants have adapted to suit their environment in different ways** -To know what natural selection is	rainforests, oceans, rivers, grasslands, evolved, extinct, natural selection, fossil, ancestor, biodiversity, biome, breeding, generation, mutation, species, survive, theory

					-To know that difference within a species can be caused by inheritance or mutations -To know that a species can change over time due to mutations -To know that a species can change over time due to external factors, such as competition from other species, disease or climate change **-To know and identify characteristics which help an organism to be well suited to and survive in its environment** (camels, polar bears, giraffe, cactus) -To know that adaptation of plants and animals to suit their environment, may lead to evolution **-To know that evolution is a process of change that takes place over many generations** -To know why advantageous characteristics are more likely to be passed from generation to generation -To know that not all inherited characteristics are advantageous -To know why adaptations can be disadvantageous -To know that maladaptations are when adaptations are more harmful than helpful **-To know how humans have evolved over time, and how human behaviour can affect**	

					change in species over time (eg. cross breeding dogs) . **Possible Scientific Enquiry** **Comparative and Fair Testing** -How does the shape of the beak affect how many peanuts can be picked up in 10 seconds? **Researching and using secondary sources** -How have changes to the environment affected the populations of the white and dark-bodied peppered moths?	
Years 5 & 6	**Spring 2**	**Human Development** **Animals including Humans**	**Biology**	**Asking Questions** -To ask questions **Making Predictions** -To make Predictions using scientific knowledge and understanding **Enquiry or Investigation** -To choose what evidence to collect to investigate a question, ensuring the evidence is sufficient **Making Measurements** -To consider how scientists have combined evidence from	**To describe the changes as humans develop to old age.** **-To know the stages of growth and development in humans** (fertilised egg/foetus – old age/death) **-To know the stages in the gestation period of humans compared to other animals** -To find out about and record the length and mass of a baby as it grows **-To know the stages of development during childhood and understand the needs of children at those stages** -To know what puberty is	**Core Vocabulary** gestation menstruation sperm hormones genitals **Other Vocabulary** fertilisation, prenatal, reproduce, asexual reproduction, sexual reproduction, life cycle, development, growth, infancy,

				observation and measurement with creative thinking to suggest new ideas and explanations for phenomena **Recording and Presenting Data** -To report and present findings in oral and written forms **Answering Questions using Data** -To identify scientific evidence that has been used to support or refute ideas and arguments	**-To know what changes occur internally and externally during puberty for both males and females** **-To know how the body changes during adulthood and old age** **Possible Scientific Enquiry** **Researching using Secondary Sources** -How do the gestation period, length and mass of a human baby compare to other mammals and their babies?	toddler, childhood, adolescence, early adulthood, middle adulthood, late adulthood, life expectancy, puberty, larynx (voice box), skin, oilier, hair, armpits, menstruate, pubic hair, breasts, arms, legs, chest, scrotum, testes, penis, taller, sweat glands, muscular, independent, mature, menopause, offspring, organ, rapid
Years 5 & 6	**Summer 1**	**Electricity**	**Physics**	**Asking Questions** -To know how to turn a question or idea into a form that can be tested **Making Predictions** -To make Predictions of what will happen based on scientific knowledge and understanding **Enquiry or Investigation** -To plan a fair test using previous knowledge and understanding	**To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit** -To know what the main components of a circuit are -To know that an electrical circuit needs to be complete for the electrical device to work -To know that the brightness of a bulb, the volume of a buzzer or the speed of a motor can be changed in a circuit	**Core Vocabulary** component cell ammeter voltage amp **Core Vocabulary** circuit, symbol, /battery, current, resistance, electrons, brighter, dimmer, louder, quieter, flow, power, series circuit,

				-To identify factors that need to be taken into consideration in different contexts -To collect sufficient evidence to test an idea **Making Measurements** -To make a variety of relevant observations -To decide when observations and Measurements need to be checked **Recording and Presenting Data** -To record data and results of increasing complexity using scientific diagrams and labels, tables and bar charts and line graphs using ICT where relevant **Answering Questions using Data** -To decide whether results support any prediction -To interpret data and think about whether it is sufficient to draw conclusions **Drawing Conclusions** -To use results to draw conclusions and to make further Predictions	**To 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** -To know that the brightness of a bulb, the volume of a buzzer or the speed of a motor, depends on how much power is supplied to each component -To know that bulbs and motors will 'blowout' if too high a voltage is used -To know that the brightness of the bulb in a circuit can be altered by changing the wires **To use recognised symbols when representing a simple circuit in a diagram** -To know why symbols are used to draw a circuit **-To know the symbols for various common circuit components** **-To use conventional circuit symbols to draw and/or construct circuits** **<u>Possible Scientific Enquiry</u>** **Comparative and fair testing** How does the number of bulbs in a circuit affect the brightness of each bulb?	appliances, bulb, buzzer, conductor, device, electricity, energy, fuel, generate, insulator, mains, motor, resistor, source, switch, wires Components of a circuit: lamp/bulb (indicator)  lamp/bulb (lighting)  wire motor  buzzer  switch (open)  switch (closed)  cell 

				-To say whether the evidence supports any prediction made		battery  ammeter  resistor 
Years 5 & 6	**Summer 2**	**Light**	**Physics**	**Asking Questions** -To ask questions and develop a line of enquiry based on observations of the real world -To know how to turn a question or idea into a form that can be tested **Making Predictions** -To make Predictions of what will happen based on scientific knowledge and understanding **Enquiry or Investigation** -To decide how to turn ideas into a form that can be tested -To identify factors that need to be taken into consideration in different contexts -To choose what evidence to collect to investigate a question, ensuring the evidence is sufficient	**To recognise that light appears to travel in straight lines** -To know a beam of light travels in a straight line **To use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light in the eye** -To know how we see objects -To know that without light we cannot see -To know the scientific definition of the word 'reflect' **To 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** -To know that all objects reflect an amount of light **-To know the names of parts of the eye**	**Core Vocabulary** Refraction Reflection Incident ray Reflected ray Light waves **Other Vocabulary** light, light source, the law of reflection, wave, angle of reflection, reflected ray, normal line, incident ray, angle of incidence, visible spectrum, prism, shadow, transparent, translucent, opaque, ray, beam of light, straight line, vacuum

				-To choose what equipment to use **Making Measurements** -To make a variety of relevant observations and Measurements -To decide when observations and measurements need to be checked **Recording and Presenting Data** -To record data and results of increasing complexity using scientific diagrams and labels, tables and bar charts and line graphs using ICT where relevant **Answering Questions using Data** -To decide whether results support any prediction -To interpret data and think about whether it is sufficient to draw conclusions **Drawing Conclusions** -To use results to draw conclusions and to make further Predictions	**-To know what each part of the eye does in order for us to see** -To know how to complete a diagram to show how light allows us to see an object **-To know briefly about the angle of incidence** **-To know what refraction is** **-To know about white light and that it can be split into a spectrum of seven colours** -To know the seven colours that light can be split into **To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them** -To know how light travels to explain how a shadow is created -To know why a shadow takes the shape of the object casting it -To know how angled mirrors can be used in different ways **Possible Scientific Enquiry** **Comparative and Fair Testing** -How does the distance between the object and the light source affect the length of the shadow	