CROSSGATES PRIMARY SCHOOL – SCIENCE MEDIUM TERM PLAN

	Autumn 1	Autumn 2	Spring	Summer	Blocks
Reception	The Local Environment Learning Objectives: 1. To describe physical changes on and around a tree. 2. To observe the weather 3. To name different fruit and vegetables that we have grown 4. To describe how we can care for plants 5. To describe the changes we have noticed in weather, trees, plants and vegetables. Key Vocabulary: Weather, temperature, season, flower, vegetable. Link to Art – Andy Goldsworthy	Light, Space, Electricity and Movement Learning Objectives: 1. To use appropriate language to talk about what happens at night, including dark, light, the Sun, the Moon and stars. 2. To name and describe a range of living and non-living things that are in the sky. 3. To describe the Moon's appearance and what an astronaut does. 4. To demonstrate how a push or a pull is needed to make an object move. 5. To demonstrate and describe, using the words 'push', 'pull' and	Objects and Materials Learning Objectives: 1. To know who lives here? 2. To investigate which hat to wear today 3. To understand and investigate how things melt 4. To observe what happens through mixing 5. To understand how to separate materials 6. To create and observe the movement of bubbles (Links to boats -DT) Key Vocabulary: Home, material, melt, sieve, mixture	Animals and Plants Learning Objectives: 1. To know what an earthworm can do. 2. To observe and identify animals with stripes. 3. To identify an egg and discuss which animals may hatch from an egg. 4. To identify parts of the body and what they are made from. 5. To know parts of a plant and which are green. 6. To find and identify parents and their child. Key Vocabulary: Animal, habitat, hatch, infant, camouflage.	Block 1 (2 year Cycle)

		'twist', what they need to do to make a toy move. 6. To talk about objects that float and sink.				
Year 1	Human Body and Senses: Learning Objectives: 1. Is everyone's body the same? 2. How can we explore the world using our sense of touch? 3. What can we hear? 4. What smells do we like and dislike? 5. What differences can our tongues taste?		Materials Lesson Objectives: 1. To discuss and explore whether the same object can be made from different materials. 2. To explore properties of different materials. 3. To investigate what can bend and stretch. 4. To explore whether all materials get wet. Key Vocabulary Bend, flexible, opaque, rigid, waterproof	Animals (Vertebrates) 1. Who's who in the animal world 2. What is so special about birds? 3. What makes an amphibian an amphibian? 4. Do fish have fingers? 5. Are humans mammals? Key vocabulary: Amphibian, carnivore, herbivore, omnivore, reptile	Identifying Plants and Parts Lesson Objectives: 1. To know which wild and garden plants are around our school. 2. To know which parts of a plant frow above the ground. 3. To know which parts of a plant grow underground. 4. To understand how a tree is a plant. 5. To know the similarities and differences between different flowering plants. Key Vocabulary: Root, stem, leaf, flower, seed	

	Seasons – runs throughout year Lesson Objectives: 1. Are all leaves the same? 2. Which animals share our space? 3. Do all trees shed their leaves? 4. Are all flowers the same? 5. Which birds visit our bird feeders? 6. How has our space changed over the year? Key Vocabulary: group, identify, observe bud, seed Link to Drawing Make Your Mark				
Year 2/3 Cycle 1	Growing Animals and Humans 1. How do animals change as they grow? 2. What do animals need to survive 3. How can we sort food into groups? 4. How do humans stay clean? 5. How can humans stay active ? 6. How do humans stay healthy? Key vocabulary: Birth, healthy, hygiene/hygienic, invertebrate, life cycle	Local habitats 1. Are the things I find alive, have they never been alive and were they once alive? 2. What lives in my tree? 3. What animals live in this woody habitat? 4. What animals live in this grassy habitat? 5. What do animals that live in the woods eat? Key Vocabulary: Food chain, consumer, decomposer, producer, habitat	Seeds and Bulbs Lesson Objectives: 1. To understand how plants grow and change over time. 2. To investigate and explore how seeds and bulbs differ. 3. To understand what 'germination' means and why seeds need it. 4. To investigate how tall how plants can grow. Key vocabulary: bulb, conditions, germinate, seed, seedling. Growing Healthy Plants Lesson Objectives: 1. To know and explain how to care for plants. 2. To find out if mature plants need light. 3. To investigate if temperature affects the growth of a mature plant. 4. To explore if mature plants need water. 5. To discuss and explore what we have learnt about mature plants. Key vocabulary: mature, healthy, unhealthy, temperature, suitable.	Choosing Materials Lesson Objectives: 1. To recall key vocabulary and concepts of materials (from previous years) 2. To investigate which materials are suitable and unsuitable 3. To investigate and record which balls will bounce the highest 4. To test the durability of fabrics 5. To introduce Charles Macintosh 6. To research the development of new materials Key Vocabulary: durable, absorbent, elasticity, flexible, waterproof	Block 2 (2 year cycle)

		Key Place: Field-trip to local woods/fields					
Year 2/3 Cycle 2	Movement and Nutrition for the Human Body 1. What nutrients do we get from our food? 2. Which nutrients are in school meals? 3. What is in a human skeleton? 4. How do muscles help humans to move? 5. How are vertebrate and invertebrate bodies supported? 6. How are human skeletons different to other vertebrates? Vocabulary: balanced, nutrient, vertebrate, invertebrate, exoskeleton	Light Trip – Museum of Illusions Manchester Key person – Thomas Edison 1. What do we need to see? 2. Which object is the most reflective? 3. How are shadows made? 4. Is my shadow like me? 5. How can you change the size of a shadow? Vocabulary: opaque, transparent, translucent, reflect/reflective, light source	Forces, friction and magnets Key person – Isaac Newton 1. What makes it move? 2. How long does a top spin for on different surfaces? 3. How well can an object slide on different surfaces? 4. How do magnet affect each other? 5. Which materials are magnetic? 6. How strong are the magnets? Vocabulary: Attract, repel, force, magnetic, like poles	Rocks, soils and fossils 1. How are rocks different and what rock is this? 2. what are rocks used for? 3. How are soils different? 4. which soil hold water? 5. What is this fossil? 6. Who was Mary Anning and how did she become a palaeontologist? Vocabulary: Erosion, fossil, remains, rock, weathering, sediment	Flowering plants and plant growth 1. What do leaves do? 2.What do roots and stems do? 3. What are the functions of the parts of a flowering plant? 4. What happens if plants do not have the space? 5. How are plants different? Vocabulary: producer, roots, seed, flower, adapted, nutrient	Flowering plants life cycles 1.What is inside a flower? 2.What is animal pollination? 3.What is wind pollination? 4. What are fruits? 5. How are seeds dispersed? Vocabulary: nectar, dispersal, pollination, fruit, germinate/germination	
Year 4/5 Cycle 1	Digestion and teeth Food Chains 1. Where does all the food we eat go? 2. What teeth do humans have? 3. What do teeth do in the digestive system? 4. What happens to food after we put in our mouths? 5. What do animals eat? 6. What do animal teeth tell us? Key Vocabulary:	Sound Link to DT – (electricity) 1. How are sounds made? 2. How do sounds reach our ears? 3. How can we change the volume of a sound? 4. How does the volume of sound change as we move away from the source? 5. How can we change the pitch of sound? 6. What affects the pitch of a plucked note? Key Vocabulary: Vibrate/vibration, pitch, volume, decibel, variable.	Changes of State Lesson Objectives: 1. To identify if a material is a liquid or a solid. 2. To measure temperature. 3. To investigate how temperature affects ice cubes. 4. To know the difference between melting and freezing. 5. To discuss and explore if spaces can be empty. 6. To explore evaporation and	Classification of Plants and Animals Lesson Objectives: 1. To understand how living things can be classified 2. To understand how to classify vertebrates 3. To understand how to classify invertebrates 4. To experiment using a branching key 5. To research and investigate, 'what is this living thing?' 6. To research the biologist, Carl Linnaeus Key Vocabulary: classification, vertebrates, invertebrates, crustacean, exoskeleton Human Impact on the Environment Lesson Objectives: 1. To investigate the impact of litter around school 2. To observe how materials change over time			Block 3 (2 year cycle)

	Oesophagus, Intestines (large and small), Molar, Canine, Incisor Key person –William Beaumont		how it helps things dry. Key Vocabulary: evaporation, liquid, solid, gas, condensation.	3. To understand how microplastics find themselves in the food chain 4. To research the prevention of microplastics 5. To understand the importance of how to clean birds after an oil spill Key Vocabulary: decomposition, pollution, global, recycling, organically		
Year 4/5 Cycle 2	Properties and uses of materials 1. How can we compare and group materials? 2. Which materials did the builders use when constructing our school and why? 3. Which liquid is the thickest? 4. Who invents things? 5. Can the same container keep cold things cold and hot things hot? 6. Which materials are absorbent, permeable or waterproof?	Separating, mixing and changing materials Science Workshop (?) 1. How can we separate mixtures? 2. What happens when we mix liquids and solids? 3. What makes a different to how fast salt or sugar dissolves? 4. How can we clean up contaminated water? 5. What makes a change non-reversible? 6. How much gas can be produced by a non-reversible change?	Forces and mechanisms Trip – The Industry of Science and Industry 1.What is the friction between different surfaces? 2.Why do some objects fall faster than others? 3.How does the size of the canopy affect the time it takes a parachute to fall? 4. How does the shape of an object affect it movement in water? 5.How does the number of pulleys affect the force needed to lift a load? 6.How does the length of the lever affect the force needed to lift a load? 7.How do gears works?	Earth and Space Key person – Sally Ride, Tim Peake Dr. Maggie Aderin-Pocock Link to Art – I need Space 1.What is in space? 2.How do the planets moves? 3. How does the position of the sun in the sky change? 4. What causes day and night? 5. How does the moon move? 6. What patterns can we find in data about the planets?	Human Growth 1. How do newborn babies change into teenagers? 2. How do girls become women? 3. How do boys become men? 4. What is the human life cycle?	Plant and animal life cycles Trip – Use school's allotment 1.How do flowering plants produce seeds? 2. Do all plants have the same number of reproductive parts? 3. How can we grow more plants ithout using seeds? 4. How do birds change over their lifetime? 5. Do all mammals have the same gestation period? 6. How do amphibians change throughout their lifecycle? 7. Do all insects go through the same lifecycle?

Year 6	Body Health: Lesson Objectives: 1. How do we make healthy choices? 2. What can happen if you don't eat a balanced diet? 3. How does physical activity affect heart rate? 4. How does smoking or vaping affect your health? Key Vocabulary: Arteries, heart rate, pulse, veins, malnutrition	Human circulation Lesson objectives: 1. What is blood made of? 2. What is the circulatory system and what does it do? 3. What is heart and what does it do? 4. What are the blood vessels and valves and what do they do? 5. What did William Harvey find out about the circulatory system? Key Vocabulary: aorta, blood vessels, atrium, ventricle, oxygenated/deoxygenated blood Key person - Marie Maynard Daly	Light Lesson Objectives: 1. To know how light travels. 2. To create shadows and explore how to change them. 3. To explore how you might change the size of a shadow. 4. To investigate how to change the size of a shadow. 5. To understand how light is reflected. 6. To explore how we see objects. Key Vocabulary: reflection, refraction, shadow, light source, opaque	Evolution and Inheritance Lesson Objectives: 1. To know how living things are different 2. To know organisms adapt to their habitat 3. To know how animals adapt to survive 4. To see what fossils tell us 5. To understand evolution 6. To research Wallace and Darwin Key Vocabulary: evolution, inheritance, adaptation, species, traits	Classification of living things Lesson Objectives: 1.To re-cap classification and sorting 2.To question whether all plants flower? 3.To classify animals 4.To understand what lives other than animals and plants 5.To identify living things and where they live 6.To organise organisms using a key Key Vocabulary: taxonomy, classification, microorganism, kingdom, branching key