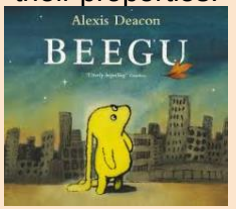
Stibbard Science Narrative

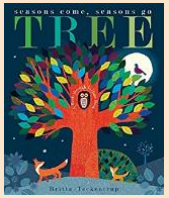
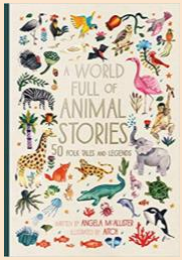
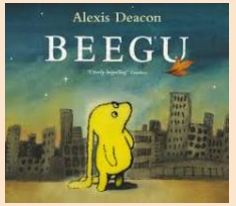
Early Years

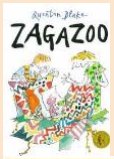
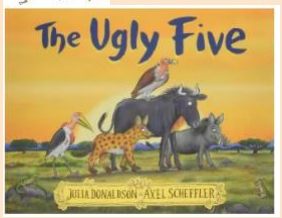
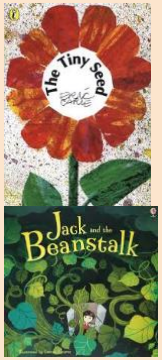
Nursery 0-3: Repeat actions that have an effect. Explore materials with different properties. Explore natural materials, indoors and outside. Explore and respond to different natural phenomena in their setting and on trips. Make connections between the features of their family and other families. Notice differences between people.

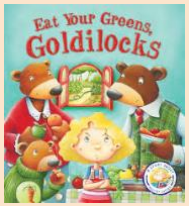
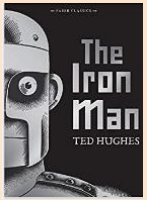
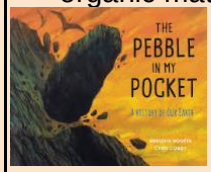
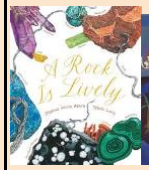
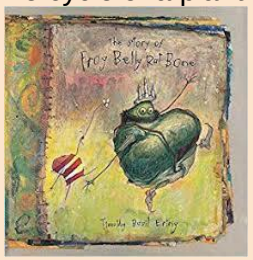
Nursery 3-4: Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary. Begin to make sense of their own life-story and family's history. Show interest in different occupations. Explore how things work. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice. Continue developing positive attitudes about the differences between people.

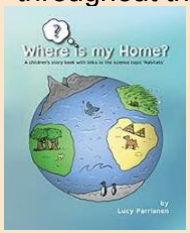
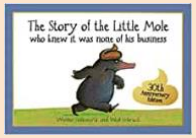
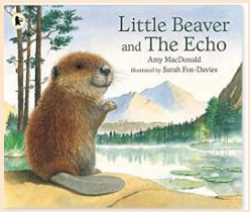
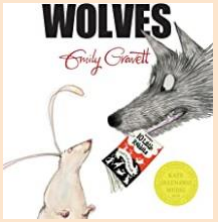
Reception: -
Talk about members of their immediate family and community. Name and describe people who are familiar to them. Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.

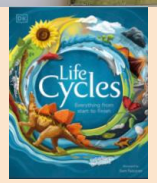
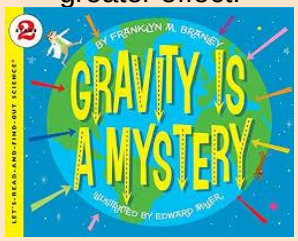
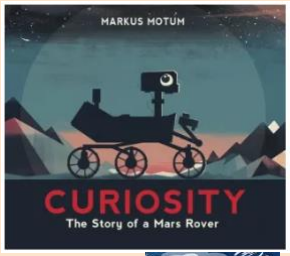
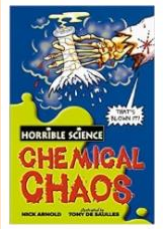
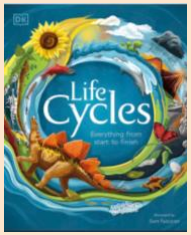
Year		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
1	Knowledge	**Animals including humans** (humans) Identify, name, draw and label the basic parts of the human body and say which part is associated with each sense. 	**Seasonal changes** over time. Observe changes across the four seasons and how day length varies. 	**Animals** (not including humans) Identify and name a variety of common animals.Describe and compare their structure. Identify carnivore, herbivores and omnivores.	**Seasonal changes** over time. Observe changes across the four seasons and how day length varies. 	**Everyday Materials** Distinguish between an object and the material from which it is made. Identify, name and describe the properties of a range of everyday materials. Group materials based on their properties. 	**Seasonal changes** over time. Observe changes across the four seasons and how day length varies. 
			Plants Identify and name a variety of common wild and garden plants including deciduous and evergreen trees.		**Plants** Identify and describe the structure of a variety of common plants		**Everyday Materials** Continued

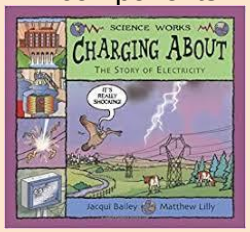
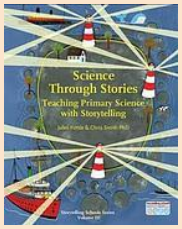
				 			
	Enquiry	Ask simple questions. Use scientific language Talk about findings Compare and sort things **Types of Enquiry:** Research and secondary sources	Use scientific language Gather data Observe closely **Types of Enquiry:** Observes changes over time	Compare and classify **Types of Enquiry:** Grouping and classifying	Observations of plants using simple equipment/changes over time **Types of Enquiry:** Observes changes over time	Perform simple tests Compare and sort things **Types of Enquiry:** Pattern seeking	Observing closely, use simple equipment. Ask simple questions **Types of Enquiry:** Observes changes over time
	Vocabulary	**sight, hearing, touch, taste, smell, head, neck, ear, mouth, shoulder, hand, fingers, leg, foot, thumb, eye, nose, knee, toes, teeth, elbow**	**evergreen, garden plants, deciduous, wild plants, seeds, wild plants, garden plants**	**Amphibians, birds, fish, mammals, reptiles, carnivores, herbivore, omnivore,**	**Leaves, blossom, petals, roots, buds, bulb, trunk, branches, stem,**	**stretchy, stiff, dull, , bendy/not bendy, waterproof/not waterproof, absorbent**	**Seasons, spring, summer, autumn, winter, windy, sunny, overcast, snow, rain, temperature**
2	Knowledge	Uses of Everyday Materials Exploring and discovering the properties of everyday materials Traditional tale- The three little pigs AND The three little wolves and the big bad pig		Animals including humans Identifying plants, animals and their habitats	Plants (including observations over time) Observations on how seeds / bulbs grow into plants	Living things and their habitats Explore how habitats support the basic needs of animals.	

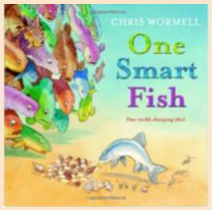
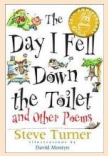
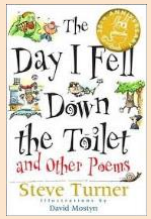
		  (or Stories through Science - Fairy Godmother's day off)		 		
	Enquiry	Observing closely, use simple equipment. Recognise that questions can be answered in different ways **Types of Enquiry:** Pattern seeking		Performing simple tests Use their observations and ideas to suggest answers to questions **Types of Enquiry:** Comparative and fair tests	Gathering & recording data (e.g. tally chart) to help in answering questions. **Types of Enquiry:** Research and secondary sources	Pattern seeking, identifying and classifying. **Types of Enquiry:** Grouping and classifying
	Vocabulary	**Waterproof, fabric, rubber, rock, paper, cardboard, wood, metal, plastic, glass, brick, twisting, squashing, bending, matches, transparent, opaque**		**Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)**	**Observation, growth, compare, record, seeds, bulbs, temperature, roots, stem, predict, leaf, flower, measure, diagram, measure, comparative tests, life cycle, life process, germinate, grain.**	**Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, sea shore, woodland, ocean, rainforest, conditions, desert, damp, shade,**
3	Knowledge	**Animals including Humans** Identify that animals including humans need the right type and amount of nutrition and that they get nutrition from what they eat. Identify that animals, including	**Forces and Magnets** Compare how things move on different surfaces, know that some forces need contact but magnetic force can act at a distance, Observe how magnets		**Rocks** Compare and group rocks based on their properties. Describe how fossils are formed. Recognise	**Plants** Identify the functions of parts of flowering plants, explore the requirements for life & growth, investigate	**Light** Recognise we need light to see and that dark is the absence of light. Know that light is reflected from

		humans have skeletons & muscles for support, protection and movement 	attract and repel and group materials by whether they are attracted to a magnet 	that soils are made from rocks and organic matter.  or  	the way water is transported within plants and explore the role flowers play in the life cycle of a plant. 	surfaces and know how shadows are formed. Find patterns in how the size of a shadow changes. )
	Enquiry	Explain what they have found out. using results to draw simple conclusions Setting up simple practical enquiries, comparative and fair tests **Types of Enquiry:** Research and secondary sources Comparative and fair tests	Recording findings using simple scientific language, drawings, labelled diagrams **Types of Enquiry:** Comparative and fair tests	Gather, record and present findings in different ways **Types of Enquiry:** Grouping and classifying	Using results to draw simple conclusions. Setting up simple practical enquiries, comparative and fair tests **Types of Enquiry:** Observes changes over time	Recording findings using data logging, simple scientific language, drawings, labelled diagrams, explain what they have found out. **Types of Enquiry:** Pattern seeking
	Vocabulary	**Nutrients, nutrition, carbohydrates, protein, fats, vitamins, minerals, water, fibre, skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic skeleton, vertebrates, invertebrates, muscles, contract, relax,** **Fair test, prediction, compare, measure, results, conclusion, present, diagram**,	**Force, push, pull, friction, surface, magnet, magnetic, magnetic field, pole, north, south, attract, repel, compass**	**Rocks, igneous, metamorphic, sedimentary, anthropic, permeable, impermeable, fossil, body fossil, trace fossil, cast fossil, mould fossil, replacement fossil, extinct, organic matter, top/ sub soil**	**Air, Light, Water, Nutrients, Soil, Reproduction, Transportation, Dispersal, Pollination, Flower. Photosynthesis Energy Growth Carbon dioxide Oxygen Sugar material**	**Light source, dark, reflect, ray, mirror, bounce, visible, beam, sun, glare, travel, straight, opaque, shadow, block, transparent, translucent.**
4	Knowledge	**Living Things and Their Habitats**	**Animals including Humans**	**States of Matter** Groups materials as	**Electricity** Construct simple	**Sound** Identify that sounds	**Living Things and Their Habitats**

		Recognise that living things can be grouped, explore classification keys and recognise that environments can change. (Begin an observation over time, to be re-visited throughout the year) 	Describe the basic parts of the digestive system, identify types of teeth and their functions 	Solids, Liquids or Gases, Changes of State and the Water Cycle 	circuits and identify whether a bulb will light in a circuit. Recognise conductors and insulators. 	are made by vibrations and they travel to our ears. Find relationship between pitch and the object and the relationship between volume and strength of vibrations. 	Food Chains & webs  (or The Rabbit Problem- also by Emily Gravett)
	Enquiry	I can make careful observations, use scientific language. Gather, record and present findings in different ways. Classify data, **Types of Enquiry:** Grouping and classifying	use scientific language to label diagrams Use results to draw simple conclusions, suggest improvements and raise further questions **Types of Enquiry:** Research and secondary sources Observations over time.	Set up a fair test. Take accurate measurements using standard units, using a range of equipment including thermometers and data loggers gather, record and present findings in different ways including oral and written explanations. **Types of Enquiry:** Comparative and fair tests	I set up my own simple Tests. display and present Findings record findings in tables. Draw simple conclusions. Explain what they have found out **Types of Enquiry:** Pattern seeking	Data logging, ask my own questions and use different ways to answer them. Gather, record, classify and present data in different ways. Draw simple conclusions, Explain what they have found out **Types of Enquiry:** Comparative and fair tests	I can make careful observations, use scientific language. Gather, record and present findings in different ways. **Types of Enquiry:** Pattern seeking
	Vocabulary	**Biome, classification key, criteria, deciduous, environment, evergreen, excretion, microhabitat, minibeast, nutrition, vegetation, flowering, nonflowering, plants,**	**Absorb, carnivore, decay, digestion, Digestive system, enamel, excretion, faeces, herbivore, ingested, muscles, nutrition, organ, plaque,**	**Solid, liquid, gas, particles, state, materials, properties, matter, melt, freeze, water, ice, temperature, process, condensation, evaporation, water**	**electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator,**	**Amplitude, decibel, electricity, energy, frequency, medium, volume, quiet, loud, ear, pitch, high, low, particles, instruments, sound waves, source,**	**Carnivore, classification key, energy, environment, food chain, food web, habitat, herbivore, life processes, microhabitat, nutrition, omnivore,**

		animals, vertebrates, fish, amphibians, reptiles, mammals, invertebrate, habitat, ecosystem, herbivore, omnivore, carnivore,	**process, saliva, oesophagus, stomach, gall bladder, small intestine, pancreas, large intestine, liver, tooth, canine, incisor, molar, premolar**	**vapour,**	**conductor.**	**transmit, travel, vibrations, volume**	**organism, predator, prey, primary consumer, producer, secondary consumer, tertiary consumer**
5	Knowledge	**Living Things and their Habitats** Plant life cycles and reproduction (Begin an observation over time, to be re-visited throughout the year)  	**Forces** Explore the effects of gravity, air resistance, water resistance and friction. Understand mechanisms such as levers, gears and pulleys allow a small force to have a greater effect. 	**Earth and Space** Understand the movements of the Earth and Moon relative to the Sun and the Moon relative to the Earth.  	**Animals including Humans** Human Life Cycle and changes as humans develop to old age 	**Properties and Changes of Materials** (1)- grouping materials based on their properties, solubility and separating mixtures of materials 	**Living Things and their Habitats** Animal life cycles and reproduction with a focus on mammal, amphibian, insect and bird. 
	Enquiry	Use their science experiences to explore ideas and raise different kinds of question. Report and present findings using speaking and writing inc. displays and presentations Look for different causal relationships in their data and	Plan scientific enquiry to answer questions decide what observations to make and take appropriate readings. Use results to make predictions and set up more tests **Types of Enquiry:**	use scientific language and illustrations use diagrams, labels, classification and graphs **Types of Enquiry:** Research and secondary sources	Use their science experiences to explore ideas and raise different kinds of question. Report and present findings using speaking and writing inc. displays and presentations Look for different causal relationships in their data and identify	plan different types of scientific enquiries to answer questions set up fair tests Decide on observations to make use scientific language and diagrams decide how to record data and use scientific diagrams, keys, tables and	Use their science experiences to explore ideas and raise different kinds of question. Report and present findings using speaking and writing inc. displays and presentations Look for different causal relationships in their data and identify

		identify evidence that refutes or supports their ideas. use diagrams, labels, classification and graphs **Types of Enquiry:** Grouping and classifying and observations over time.	Comparative and fair tests		evidence that refutes or supports their ideas. use diagrams, labels, classification and graphs **Types of Enquiry:** Grouping and classifying and observations over time.	graphs **Types of Enquiry:** Comparative and fair tests	evidence that refutes or supports their ideas. use diagrams, labels, classification and graphs **Types of Enquiry:** Grouping and classifying and observations over time.
	Vocabulary	**Environment, flowering, nonflowering, plants, human impact, nature reserves, deforestation. Sexual, asexual, reproduction, cell, fertilisation, pollination, male, female,**	**Air resistance, Water resistance, Friction, Gravity, Newton, Gears, Pulleys, force, push, pull, opposing, streamline, brake, mechanism, lever, cog, machine, pulley**	**Earth, Sun, Moon, Axis, Rotation, Day, Night, Phases of the Moon, star, constellation, waxing, waning, crescent, gibbous. Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, planets, solar system, day, night, rotate, orbit, axis, spherical, geocentric, heliocentric**	**Foetus, Embryo, Womb, Gestation, Baby, Toddler, Teenager, Elderly, Growth, Development, Puberty**	**Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing Material, conductor, dissolve, insoluble, suspension, chemical, physical,, solution, separate, mixture, insulator, transparent, flexible, permeable, soluble,**	**animals, vertebrates, fish, amphibians, reptiles, mammals, invertebrate, pregnancy, gestation, young, mammal, metamorphosis, amphibian, insect, egg, embryo, bird, plant, male, female,**
6	Knowledge	**Evolution and Inheritance** Recognise that living things have changed over time and that they produce offspring of the same kind. Explore how animals are suited to their environment.	**Electricity** Associate the output of bulbs, buzzers with the number of cells. Use symbols to represent components. 	**Animals including Humans** Understand the circulatory system, know the impact of diet, exercise and drugs on the body, understand how nutrients and water are transported. In the body,	**Light** Know that light travels in straight lines, understand how we see objects and explain how shadows are formed and what affects their size.	**Living Things and their Habitats** Classification of plants and animals Hook: Recipe to make a wolf poem (Pie Corbett)	**Properties and Changes of Materials** (2) Reversible and irreversible changes  (Death of a pancake - Science through stories)

		  (Poem:Who made the world?)		 (Poem:The vegetables strike back)	 (short film clip) The Dark by Lemony Snicket		
	Enquiry	Identifying scientific evidence that has been used to support or refute ideas or arguments. Explain degree of trust in results. **Types of Enquiry:** Research and secondary sources	Plan a scientific enquiry to answer a question, recognising and controlling Variables. Report and present findings from enquiries using appropriate scientific language. Explain results **Types of Enquiry:** Pattern seeking	Use test result to make predictions to set up further comparative and fair tests **Types of Enquiry:** Comparative and fair tests	Pupil can consider how by modifying instrument or technique, measurements can be improved. Report and present findings from enquiries, including conclusions and causal relationships. Take accurate measurements and record data on a graph, noticing patterns. **Types of Enquiry:** Pattern seeking	Record the results of a survey using a classification key Report and present findings from enquiries using appropriate scientific language **Types of Enquiry:** Research and secondary sources, grouping and classifying.	Plan different types of scientific enquiries to answer questions set up fair tests Decide on observations to make use scientific language and diagrams decide how to record data and use scientific diagrams, keys, tables and graphs **Types of Enquiry:** Comparative and fair tests
	Vocabulary	**Fossils, Adaptation, Evolution, Characteristics, Reproduction, Genetics, Natural selection, characteristics, evidence, parent offspring, inherit, inherited,**	**Conductor, insulator battery, cell, lamp switch, circuit.** **component, buzzer, motor, voltage, function, brightness, volume, symbols wire, graphite, series, parallel, plastic**	**Oxygenated, Deoxygenated, Valve, Exercise, Respiration Circulatory system, heart, lungs, blood vessels, blood, artery, vein, pulmonary, alveoli, capillary, digestive, transport, gas**	**Reflect reflection shadow light ray transmit opaque transparent translucent emit absorb dispersion prism pupil retina iris optic nerve lens image cornea**	**Variation Organisms Populations. Classification Characteristics Environment, human impact, nature reserves, deforestation. Classify, compare, bacteria,**	**Hardness, Solubility, Transparency, Conductivity, Magnetic, Filter, Evaporation, Dissolving, Mixing Material, conductor, dissolve, insoluble, suspension, chemical, physical,**

		characteristic, environmental, adapt, adaptation, evolve, environment species, breed		**exchange, villi, nutrients, water, oxygen, alcohol, drugs, tobacco**	**refraction mirror convex concave**	**microorganism, organism, invertebrates, vertebrates, Linnaean**.	**irreversible, solution, reversible, separate, mixture, insulator, transparent, flexible, permeable, soluble,**