Trimley St Mary – Science Long Term Plan

	Autumn Term	Spring Term	Summer Term
EYFS	**Who do you think you are? – What makes me special?** People – Autumn/ Winter – seasonal changes	**Prickly Plants and Awesome Animals – Would you rather live in a hot place or a cold place?** Animals – life cycles Spring – plants	**Everyday Heroes – Who are the Everyday Heroes in our community?** Light and dark Planting and growing
Development Matters Links	Eats a healthy range of foodstuffs and understands need for variety in food. Shows some understanding that good practices with regard to exercise, eating, sleeping and hygiene can contribute to good health. Knows some of the things that make them unique, and can talk about some of the similarities and differences in relation to friends or family. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary; - Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate;	They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world. Can talk about some of the things they have observed such as plants, animals, natural and found objects. Talks about why things happen and how things work. Developing an understanding of growth, decay and changes over time. Shows care and concern for living things and the environment. Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary; - Offer explanations for why	Shows interest in the lives of people who are familiar to them. Remembers and talks about significant events in their own experience. Recognises and describes special times or events for family or friends. Shows interest in different occupations and ways of life. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary; - Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate;

	Use and understand recently introduced vocabulary during discussions about non-fiction. Explore the natural world around them, making observations and drawing pictures of animals and plants; - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate; Use and understand recently introduced vocabulary during discussions about non-fiction. Explore the natural world around them, making observations and drawing pictures of animals and plants; - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	Use and understand recently introduced vocabulary during discussions about non-fiction. Explore the natural world around them, making observations and drawing pictures of animals and plants; - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.
Year One	**Knowing Me, Knowing You - What makes me who I am?** Working Scientifically Animals including Humans Everyday Materials	**Food, Glorious Food - Would you rather grow your own food, or get your food from a shop?** Plants Working Scientifically	**Oh We do like to be beside the Seaside - What makes our beach a special place?** Sound and Hearing Forces Seasonal Changes Working Scientifically
National Curriculum Links	identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals identify and name a variety of common animals that are carnivores, herbivores and omnivores describe and compare the structure of a variety of common animals identify, name, draw and label the basic parts of the human body and say which	identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees	ask simple questions and recognising that they can be answered in different ways observe closely, using simple equipment perform simple tests identify and classify using their observations and ideas to suggest answers to questions gather and record data to help in answering questions

	part of the body is associated with each sense. distinguish between an object and the material from which it is made identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock describe the simple physical properties of a variety of everyday materials compare and group together a variety of everyday materials on the basis of their simple physical properties.		observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies.
Year Two	**London Calling – Why is London the capital city of the United Kingdom?** Uses of everyday materials Working Scientifically	**Medieval Mayhem – Would you rather live in your house or a castle?** Forces & Movement Working Scientifically Seasonal Changes	**The Enchanted Wood – Why are woodlands important?** Animals including Humans Living Things and their Habitats/Plants Working Scientifically
National Curriculum Links	identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	observe and describe how seeds and bulbs grow into mature plants find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. ask simple questions and recognise that they can be answered in different ways observe closely, using simple equipment perform simple tests identify and classify use their observations and ideas to suggest answers to questions gather and record data to help in answering questions	explore and compare the differences between things that are living, dead, and things that have never been alive identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other identify and name a variety of plants and animals in their habitats, including microhabitats describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

			notice that animals, including humans, have offspring which grow into adults find out about and describe the basic needs of animals, including humans, for survival (water, food and air) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.
Year Three/Four Cycle one	**Enchanting Egyptians - Why did the Egyptians stop building pyramids?** Light - Why is sunlight important and how could it be dangerous? What is dark? How are shadows formed? What patterns are found in shadow changes? How does light link to time? How to make sundials.	**Revolting Romans - What did the Romans ever do for us?** Magnets and springs. Forces and friction, How does movement change on different surfaces? Identify forces in operation. How do magnets attract or repel, attracting some materials but not others?	**Healthy Heroes - - How do we know if we're healthy?** Understand animals and humans -nutrition, skeletons/muscles, digestion, teeth What makes up the digestive system? What is the job of bones in our body?
National Curriculum Links Working scientifically by; asking questions setting up simple practical enquiries and fair tests making systematic and careful observations taking accurate measurements using standard units gathering, recording, classifying and presenting data	Identify sources of light, seeing, reflections and shadows. Explain how light appears to travel in straight lines and how this affects seeing and shadows	Identify contact and distant forces, attraction and repulsion, comparing and grouping materials. Explain poles, attraction and repulsion. Explain the effect of gravity and drag forces. Explore the transference of forces in gears, pulleys,levers and springs.	Investigate nutrition, transportation of water and nutrients in the body, and the muscle and skeleton system of humans and animals. Explain the digestive system in humans. Understand the function of teeth. Explore how the human circulatory system. Be aware of the effect of diet, exercise and drugs.

recording findings using simple scientific language using results to draw simple conclusions, make predictions identifying differences, similarities or changes using straightforward scientific evidence to answer questions or to support their findings.			
Year Three/Four Cycle 2	**Stones and Bones – Could we survive in the Stone Age?** Rocks and soils; fossils, properties of rocks. How can rocks be sorted? How are fossils formed? Sound; How are sounds made? What is vibration? Can you find patterns between pitch and features of objects? Why do sounds get fainter as the distance increases?	**Remarkable Rainforests – Will there still be rainforests when we grow up?** Living things in their habitats, camouflage, Food webs and food chains Grouping, sorting and classification keys Research plants and animals that live in canopies of the rainforests Electricity; How can you construct a series circuit. What are the uses and how do switches work? Identify which materials are good conductors.	**Our Place on Earth – What makes our place on Earth special?** Plants and growth. States of matter. Explain and explore plants requirements for growth. How is water transported? Explore pollination, seed formation and seed dispersal. How can solids, liquids or gases be grouped? How do materials change state when heated or cooled? How does water recycle? Explore links between the rate of evaporation and temperature.
National Curriculum Links Working scientifically by; asking questions	Compare and group rocks Describe the formation of fossils. Look at sources of vibration, volume and pitch	To identify and name plants and animals. Use simple classification keys for animals, plants and micro-organisms.	Identify the function of parts of flowering plants. Know the requirements of growth. Be aware of water transportation in plants. Identify life cycles and seed dispersal. Explain plant reproduction.

setting up simple practical enquiries and fair tests making systematic and careful observations taking accurate measurements using standard units gathering, recording, classifying and presenting data recording findings using simple scientific language using results to draw simple conclusions, make predictions identifying differences, similarities or changes using straightforward scientific evidence to answer questions or to support their findings.		Investigate appliances, circuits, lamps, switches, insulators and conductors. Identify the effect of the voltage in cells and the resistance and conductivity of materials	Examine the properties of materials using various tests. Explore solubility and recovering dissolved substances. Separate mixtures. Examine changes to materials that create new materials that are usually not reversible.
Year Five/Six Cycle 1	Journey to the Poles Who were the first humans to discover Antarctica? What was Shackleton's journey like? How did Shackleton get to Antarctica?	Travelling Through Time When did the Anglo Saxons settle in Britain? Where did they come from? What evidence is there in modern Britain that the Anglo Saxons lived here?	Journey to The Americas What is life like in the Americas? Who are the Mayans? What effects have they had on our lives? All living things: Diet, exercise and drugs.

	Properties of materials solubility and recovering dissolved substances **Why does it rain? How do you keep things warm or cold?** **States of Matter,** solids liquids and gases **What are reversible and irreversible changes?** **How can you identify what a solid, liquid or gas is?**	**Who were the Greek gods?** **How have the Ancient Greeks affected modern life?** **Forces** transference in gears, pulleys and leavers **Why do we float in space but not on earth?** **Magnets** attraction replusion **Why do magnets attract and repel?**	**Why should we exercise?** **How does the heart keep us alive?** **Sound:** pitch and volume and vibration. **How do we hear? What affects how sound travels?**
National Curriculum Links Working scientifically by; asking questions setting up simple practical enquiries and fair tests making systematic and careful observations taking accurate measurements using standard units gathering, recording, classifying and presenting data recording findings using simple scientific language using results to draw simple conclusions, make predictions identifying differences,	Review changes of state, evaporation, condensation and the water cycle Examine the properties of materials using various tests. Look at solubility and recovering dissolved substances. Separate mixtures. Examine changes to materials that create new materials that are usually not reversible.	Look at contact and distant forces, attraction and repulsion, comparing and grouping materials. Look at poles, attraction and repulsion. Look at the effect of gravity and drag forces. Look at transference of forces in gears, pulleys, levers and springs.	Look at the effect of diet, exercise and drugs. To look at sources, vibration, volume and pitch

similarities or changes using straightforward scientific evidence to answer questions or to support their findings.			
Year Five/Six Cycle 2	Disaster Zones **What years did major natural disasters happen?** **Have we had any local natural disasters?** **How have disaster hit countries recovered?** **Plants** reproduction **How do plants grow? What does a plant need to survive?** **Classification of Animals** life cycles of all living things **How do we classify animals?** **What makes a mammal a mammal; a repite a repite;a fish a fish; a bird a bird?**	Intergalatic Explorers **Which countries were involved in the Space Race?** **When did humans first reach the moon?** **When did the first woman enter space?** **Space** planets, sun and moon. Night/day Seasons. Early ideas of astronomy **What solar system is planet earth in?** **Why do we get day and night?** **What is the luna cycle?** **Light:** shadow, reflections apperance direction. **Why do we have shadows? How does reflect?**	The War Room **How did the world wars start?** **When did they start?** **Who was involved?** **How were people affected?** **Electricity:** circuits, conductors, insulators. **What conducts and insulates?** **How does a circuit work?** **Adaptation, & Evolution** how things have adapted and evolved. **How have animals and humans adapted to suvive?**
National Curriculum Links Working scientifically by; asking questions setting up simple practical enquiries and fair tests making systematic and careful observations	Look at the function of parts of flowering plants, requirements of growth, water transportation in plants, life cycles and seed dispersal. Identify and name plants and animals' Look at classification keys. Look at the life cycle of animals and plants. Look at classification of plants, animals and micro organisms.	Look at the movement of the Earth and the Moon. Explain day and night. Look at sources, seeing, reflections and shadows. Explain how light appears to travel in straight lines and how this affects seeing and shadows.	Look at appliances, circuits, lamps, switches, insulators and conductors. Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials. Look at resemblance in offspring. Look at changes in animals over time. Look at adaptation to environments. Look at differences in offspring. Look at adaptation and evolution.

taking accurate measurements using standard units gathering, recording, classifying and presenting data recording findings using simple scientific language using results to draw simple conclusions, make predictions identifying differences, similarities or changes using straightforward scientific evidence to answer questions or to support their findings.			Look at changes to the human skeleton over time.