St Mary's Science Curriculum Map (with RSE links)

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Topic Overview						
• The Natural World • Managing Self	• Everyday Materials • Living Things and their Habitats • Animals, including humans (focusing on animals and grouping)	• Seasonal Changes • Animals including Humans (focusing mainly on humans) • Plants	• Light • Forces & Magnets • Nutrition • Skeleton and muscles • Animals, including humans • Plants	• States of Matter • Electricity • Sound • Living Things and their Habitats • Rocks, Fossils and Soils	• Properties and Change of Materials • Living things and their habitats • Animals, including Humans • Forces • Earth and Space	• Living things and their Habitats • Animals, including Humans • Evolution and Inheritance • Light • Electricity
Skills Progression						
The Natural World Children at the expected level of development will: • 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 **Managing Self**	**Everyday Materials** • 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 • 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	**Seasonal Changes** • observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies **Animals, including humans** • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense RSE links: My body 1.1.3.3. The names of the external parts of the body 1.1.3.4. The similarities and differences between girls and boys • notice that animals, including humans, have offspring which grow into adults	**Light** • recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by a solid object • find patterns in the way that the size of shadows change **Nutrition** • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get	**States of Matter** • compare and group materials together, according to whether they are solids, liquids or gases • 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) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature **Electricity** • identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and naming its basic parts, including	**Properties and Change of Materials** • compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair tests, for the particular	**Living things and their habitats** • 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 • give reasons for classifying plants and animals based on specific characteristics **Animals, including Humans** • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function

Children at the expected level of development will: • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge • Explain the reasons for rules, know right from wrong and try to behave accordingly • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices	materials can be changed by squashing, bending, twisting and stretching **Living Things and their Habitats** • to 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 micro-habitats • 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 **Animals including humans** • 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	• 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 **Plants** • 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 • 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	nutrition from what they eat RSE Links: My Health 1.1.3.5. How to maintain personal hygiene 1.1.3.6. What constitutes a healthy life-style, including physical activity, dental health and healthy eating **Skeletons and Muscles** • identify that humans and some other animals have skeletons and muscles for support, protection and movement **Food chains and food webs** • describe how organisms obtain their energy from photosynthesis, plants or other animals, using the idea of a food chains or more complex food webs, and identify how energy transfers through them **Plants** • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • explore the requirements of plants for life and growth (air, light, water, nutrients	cells, wires, bulbs, switches and buzzers • identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors **Light** • recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by a solid object • find patterns in the way that the size of shadows change **Sound** • identify how sounds are made, associating	uses of everyday materials, including metals, wood and plastic • demonstrate that dissolving, mixing and changes of state are reversible changes • explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda **Living things and their habitats** • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • describe the life process of reproduction in some plants and animals. **Animals, including humans** • describe the changes as humans develop to old age RSE Links: My Body 2.1.3.5. Their body will change and develop as they grow 2.1.3.6. About the growth and development of humans and the changes experienced during puberty	• describe the ways in which nutrients and water are transported within animals, including humans. **Evolution and Inheritance** • recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution **Light** • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • 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 • use the idea that light travels in straight lines

	carnivores, herbivores and omnivores • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)		from soil, and room to grow) and how they vary from plant to plant • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal **Forces and Magnets** • compare how things move on different surfaces • notice that some forces need contact between two objects, but magnetic forces can act at a distance • observe how magnets attract or repel each other and attract some materials and not others describe magnets as having two poles • predict whether two magnets will attract or repel each other, depending on which poles are facing • 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	some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the pitch of a sound and features of the object that produced it • find patterns between the volume of a sound and the strength of the vibrations that produced it • recognise that sounds get fainter as the distance from the sound source increases **Living things and their Habitats** • recognise that living things can be grouped in a variety of ways • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • recognise that environments can change and that this can sometimes pose dangers to living things **Rocks, Fossils and Soils** • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties	2.1.3.7. The names of the main parts of the body, including identifying and correctly naming genitalia (e.g. penis and vagina) **Forces** • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces • recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect **Earth and Space** • describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent	to explain why shadows have the same shape as the objects that cast them **Electricity** • associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • 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 • use recognised symbols when representing a simple circuit in a diagram

				• describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter	movement of the sun across the sky	

RSE Curriculum References

Me, my body and my health	**Pupils should be taught:** **Me** 1.1.3.1. We are all unique individuals 1.1.3.2. We all have individual gifts, talents and abilities **My body** 1.1.3.3. The names of the external parts of the body 1.1.3.4. The similarities and differences between girls and boys **My Health** 1.1.3.5. How to maintain personal hygiene 1.1.3.6. What constitutes a healthy life-style, including physical activity, dental health and healthy eating	**Pupils should be taught:** **Me** 2.1.3.1. Everyone expresses their uniqueness in different ways and that being different is not always easy 2.1.3.2. Strategies to develop self-confidence and self-esteem 2.1.3.3. Each person has a purpose in the world 2.1.3.4. That similarities and differences between people arise from several different factors (See protected characteristics of the Equality Act 2010, Part 2, Chapter 1, sections 4-12) **My body** 2.1.3.5. Their body will change and develop as they grow 2.1.3.6. About the growth and development of humans and the changes experienced during puberty 2.1.3.7. The names of the main parts of the body, including identifying and correctly naming genitalia (e.g. penis and vagina) **My health** 2.1.3.8. How to make informed choices that have an impact on their health