



Romero Science Knowledge Progression Map

	EYFS Understanding the world	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn	<p><u>Autumn</u></p> <p>1. To recognise that some environments are different to one in which they live</p> <p><u>Spring</u></p> <p>2. To explore the natural world around them. (OBJECTIVE EXPLORED IN ALL UNITS FROM YRI-6)</p> <p>3. To name the five senses</p> <p>4. To observe and interact with natural processes. For example, ice melting during Winter, floating and sinking, shadows</p> <p>5. To describe some things that they see, hear, feel, touch and taste</p> <p>6. To name and describe plants and animals whilst outside</p> <p>7. To understand the life cycle of plants (bean plant) and an animal (ladybirds)</p>	<p>Animals including Humans (Humans)</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To identify and name parts of the human body.- To draw and label scientific diagrams of parts of the human body.- That we have five senses: sight, smell, touch, taste and hearing.- To name the parts of the human body linked to each of the five senses. (EYFS 3 & 5)	<p>Uses of Everyday Materials</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To identify and compare how suitable different materials are for different jobs- How the shapes of some solid objects can be changed by squashing, bending, twisting and stretching. (EYFS 4)	<p>Forces & Magnets</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- How things move differently on different surfaces.- That some forces are contact forces and other forces are non-contact forces.- That we can measure the size of forces with a newton meter.- That forces are measured in newtons.- How magnets can attract and repel each other.- How to investigate materials to see if they are magnetic.- To describe magnets as having two poles.- Now to make predictions about whether a pair of magnets will attract or repel each other. (EYFS 4 & 8)	<p>Animals including Humans</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To describe the simple functions of the basic parts of the digestive system in humans.- To identify the different types of teeth in humans and their simple functions.- To construct and interpret a variety of food chains, identifying producers, predators, and prey. (EYFS Physical Development)	<p>Living things & their Habitats</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.--To describe the life process of reproduction in some plants and animals. (EYFS 7)- Use the idea of the Earth's rotation to explain day and night and the apparent	<p>Electricity</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- 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 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 use recognised symbols when representing a simple circuit in a diagram. (EYFS 2)
Autumn 2	<p><u>Summer</u></p> <p>8. To explore non-contact sources such as gravity or magnets</p> <p>9. To name some specific features of a plant</p> <p>10. To understand the need to care and respect the environment and living things</p> <p><u>Development Matters (Reception):</u></p> <p>Encourage interactions with the outdoors to foster curiosity and give children freedom to touch, smell and hear the natural world around them during hands-on experiences.</p> <p>Create opportunities to discuss how we care for the natural world around us.</p> <p>Offer opportunities to sing songs and join in with rhymes and poems about the natural world.</p> <p>After close observation, draw pictures of the natural world, including animals and plants.</p>	<p>Animals including Humans (Animals)</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To identify a variety of common animals including fish, amphibians, reptiles, birds and mammals.- To identify a variety of common animals that are carnivores, herbivores and omnivores.- To describe and compare the structure of a variety of common animals (EYFS 6)		<p>Animals including Humans</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">-That animals, including humans, need the right types and amounts of nutrition.-To be able to organise types of food into groups.-To be able to identify animals that have skeletons.-To be able to name some of bones in the skeleton.-To explain the function of different types of bones and muscles. (EYFS Physical Development)	<p>Sound</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To identify how sounds are made by something vibrating.- To recognize that vibrations from sound travel through a medium to the ear.- To find patterns between the pitch of a sound and the features of the object that produced it.- To find patterns between the volume of a sound and the strength of the vibrations that produced it.- To recognise that sounds get fainter as the distance from the sound source increases. (EYFS 2)	<p>Properties of Materials</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To 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- That some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution- To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating- To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic- To demonstrate that dissolving, mixing and changes of state are reversible changes	<p>Light</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To recognise that light appears to travel in straight lines.- To 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.- 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 use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. (EYFS 2)
Spring 1	<p>Observe and interact with natural processes, such as ice melting, a sound causing a vibration, light travelling through transparent material, an object casting a shadow, a magnet attracting an object and a boat floating on water.</p> <p>Encourage focused observation of the natural world. Listen to children describing and commenting on things they have seen whilst outside, including plants and animals.</p>	<p>Everyday Materials</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To tell the difference between an object and the materials from which it is made.- To name a variety of everyday materials.- To describe the simple physical properties of a variety of everyday materials.- To compare and group together a variety of everyday materials based on their physical properties.	<p>Animals including Humans (Human Biology)</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- That humans have offspring that grow into adults.- To describe how humans change as they grow into adults.- The basic needs of humans so that they can survive.- Why exercise is important for humans to stay healthy.- How humans can stay healthy with good hygiene.	<p>Light</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- That dark is the absence of light.- That we need light to see things.- That light is reflected from surfaces.- How light from the Sun can be dangerous and how we can protect ourselves.- To recognise that shadows are formed when an opaque object blocks light.- What factors affect the size of shadows. (EYFS 4)	<p>Electricity</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To identify common appliances that run on electricity.- To construct a simple series circuit, identifying and naming its basic parts.- To recognize that a lamp needs to be in a complete loop with a battery for it to light.- To recognise that a switch opens and closes a circuit and can affect whether a lamp will light or not.	<p>Animals including Humans</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To describe the changes as humans develop from birth to old age. (EYFS Physical Development)	<p>Animals including Humans</p> <p><u>Knowledge:</u></p> <ul style="list-style-type: none">- To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood- To recognise the impact of diet, exercise, drugs and lifestyle on the way their body's function- To describe the ways in which nutrients and water are transported within animals, including humans.



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	<p>Name and describe some plants and animals children are likely to see, encouraging children to recognise familiar plants and animals whilst outside</p> <p>Guide children's understanding by draw children's attention to the weather and seasonal features.</p> <p>Provide opportunities for children to note and record the weather. Select texts to share with the children about the changing seasons.</p>		<p>- What humans need to eat to keep healthy. EYFS Physical Development</p>		<p>- To identify reasons why a series circuit does work - To recognise conductors and insulators. EYFS 2</p>		EYFS Physical Development
Spring 2	<p>Throughout the year, take children outside to observe the natural world and encourage children to observe how animals behave differently as the seasons change.</p> <p>Look for children incorporating their understanding of the seasons and weather in their play.</p> <p><u>Physical development links</u> Know and talk about the different factors that support their overall health and wellbeing: - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian</p>		<p>Living things & their Habitats <u>Knowledge:</u> - To identify and compare things that are living, dead and things that have never been alive. - To name and compare a variety of habitats and microhabitats. - To identify and name a variety of plants and animals in different habitats and micro-habitats. - To describe how different plants and animals are suited to their habitats. - To explain how different habitats provide for the basic needs of plants and animals. - How different animals and plants depend on each other. - To be able to use simple food chains to describe how animals get their food from plants and other animals. EYFS 1</p>	<p>Rocks and Soils <u>Knowledge:</u> - To group together rocks based on their physical appearance. - To group rocks together based on their physical properties. - To explain how fossils are formed, that soils are made from rocks and organic material.</p>	<p>States of Matter <u>Knowledge:</u> - To compare and group materials together, according to whether they are solids, liquids or gases. - To observe that some materials change state when they are heated or cooled. - To measure and research temperatures at which materials change state. - To identify the part played by evaporation and condensation in the water cycle. - To associate the rate of evaporation with temperature. EYFS 4</p>	<p>Forces <u>Knowledge:</u> - To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object - To identify the effects of air resistance, water resistance and friction, that act between moving surfaces - To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. EYFS 4 & 8</p>	<p>Evolution & Inheritance <u>Knowledge:</u> - 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 recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents - To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. EYFS 6</p>
Summer 1	<p><u>Communication and language links</u> Understand "why" questions</p> <p><u>ELG Understanding the world</u> Describe their immediate environment using knowledge from observation and discussion Explore the natural world around them, making observations and drawing pictures of animals and plants</p> <p>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</p>	<p>Plants <u>Knowledge:</u> - Identify and name a variety of wild and garden plants - Identify and group deciduous and evergreen trees - Draw and label parts of common flowering plants - Draw and label parts of a tree EYFS 6, 7 & 9</p>	<p>Plants <u>Knowledge:</u> - Observe and describe seeds - Observe and describe how seeds change as they grow into mature plants - To observe and describe how bulbs change as they grow into mature plants - To know that seeds need water and warmth to grow - To know that plants need light, water and air to grow - To know that plants need nutrients to stay healthy. EYFS 6, 7 & 9</p>	<p>Plants <u>Knowledge:</u> - Identify and describe the functions of -different parts of flowering plants. - That different plants have different requirements for life and growth. - How different factors affect how plants grow including air, light, water, nutrients and room to grow. - How water is transported around plants. - How flowers enable plants to reproduce through the processes of pollination, seed formation and seed dispersal. EYFS 6, 7 & 9</p>	<p>Living things & their habitats <u>Knowledge:</u> - To recognise that living things can be grouped in a variety of ways. - How to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. - To recognise that environments can change and that this can sometimes pose dangers to living things. EYFS 1 & 6</p>	<p>Earth and Space <u>Knowledge:</u> - 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 movement of the sun across the sky. EYFS 8</p>	<p>Living things & their Habitats <u>Knowledge:</u> - 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 give reasons for classifying plants and animals based on specific characteristics. EYFS 6</p>
Summer 2	<p>Understand the effect of the changing seasons on the natural world around them, including states of matter</p>	<p>Science Culture Capital SEASONAL CHANGES – COVERED THROUGHOUT THE YEAR. EYFS 4</p>	<p>Science Culture Capital</p>	<p>Science Culture Capital</p>	<p>Science Culture Capital</p>	<p>Science Culture Capital</p>	<p>Science Culture Capital</p>