

## Seven Stars Science Progression of Knowledge

SC units	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including Humans	<p>. Life cycle of a frog</p> <p>. What happens when we exercise? . How and why do we clean our teeth? . How and why do we wash our hands?</p>	<p>. Learn about body parts and how they are used: arms, legs, chest, hands, feet, eyes, nose, ears, mouth and hair</p> <p>. Discover how bodies change as we grow up</p> <p>. Know ways to stay healthy and identify some healthy foods . Know where some foods come from</p>	<p>. Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>• <b>(From Animals and Habitats)</b> Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p>	<p>. Notice that all animals, including humans have offspring, which grow into adults.</p> <p>. Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</p> <p>. <b>(From Animals and Habitats)</b> Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name</p>	<p>. Identify that some animals including humans have skeletons and muscles for support, protection and movement.</p> <p>. Identify that animals including humans need the right types and amount of nutrition and that they cannot make their own food. They get nutrition from what they eat.</p>	<p>• Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>• Identify the different types of teeth in humans and their simple functions.</p> <p>• Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>. Describe the changes as humans develop to old age</p>	<p>. Identify and name the parts of the circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>. Recognise the impact of diet, exercise, drugs and lifestyle on the ways their bodies function.</p> <p>. Describe the ways nutrients and water are transported in animals and humans</p>

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				different sources of food.				
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Animals and their habitats	<p>. Name animals and their young</p> <p>. Finding and identifying minibeasts</p> <p>. Life cycle of a frog</p>	<p>. Learn about insects and invertebrates and find out where they live</p> <p>. Learn that animals are living things</p> <p>. Discover where animals live and what they need to survive</p> <p>. Learn about farm animals and how they are looked after</p>	<ul style="list-style-type: none"> <li>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li> <li>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</li> </ul>	<p>Explore the differences between things that are living, dead and things that had never been alive.</p> <p>. 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.</p> <p>. Identify and name a variety of plants and animals in their habitats including micro habitats.</p>		<p>. Living things can be grouped (classified) in different ways according to their features.</p> <p>. Classification keys can be used to identify and name living things.</p> <p>. Living things live in a habitat which provides an environment to which they are suited</p>	<p>. Describe the differences in lifecycles of a mammal, amphibian, insect and bird</p> <p>. Describe the process of reproduction in some plants and animals.</p>	<p>. 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.</p> <p>. Give reasons for classifying plants and animals based on specific characteristics.</p>
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Plants	<p>.Being able to plant a seed in soil using equipment</p> <p>. observing plants when they are growing over time</p> <p>. Growing a plant (beanstalk)</p> <p>What do you notice?</p>	<p>. Discover that plants are living things</p> <p>. Learn about plants and where they come from</p> <p>. Know how to look after plants</p>	<ul style="list-style-type: none"> <li>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul>	<p>. Observe and describe how seeds and bulbs grow into mature plants.</p> <p>. Find out and describe how plants need water, light and suitable temperature to grow and stay healthy.</p>	<p>. Identify functions and parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>.Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p> <p>. Investigate the way in which water is transported in plants</p> <p>. Explore the part that flowers play in the life cycle of flowering plants including pollination, seed formation and seed dispersal.</p>		<p>.(From Living things and habitats) Describe the process of reproduction in some plants.</p>	<p>. (From Evolution and inheritance) . Identify how plants have adapted to suit their environment.</p>
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Materials	<p>. Understand touch as feeling and think about what different materials feel like</p> <p>Can we keep everywhere bear dry?</p>	<p>. Learn about living and non-living things</p> <p>. Understand that things can change shape and explore process of melting</p> <p>. Learn about different materials and some of their features</p> <p>. Explore how waves wear away the coastline</p> <p>. Discover how to make the perfect sandcastle</p> <p>. Learn about rain, ice and water</p> <p>. Describe why the air moves</p> <p>. Explore snow and melting</p>	<ul style="list-style-type: none"> <li>• Distinguish between an object and the material from which it is made.</li> <li>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</li> <li>. Describe the simple physical properties of a variety of everyday materials.</li> <li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul>	<p>. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>. Find out how the shapes of solid objects made by some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>(From Rocks)</p> <ul style="list-style-type: none"> <li>• Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</li> <li>• Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</li> <li>• Recognise that soils are made from rocks and organic matter.</li> </ul>	<p>(From States of matter)</p> <ul style="list-style-type: none"> <li>• Compare and group materials together, according to whether they are solids, liquids or gases.</li> <li>• 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).</li> <li>• Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul>	<p>Properties</p> <p>. Compare and group together every day materials on the basis of their properties including: hardness, solubility, transparency, conductivity and response to magnets</p> <p>. Know that some materials will dissolve in a liquid to form a solution.</p> <p>. Use knowledge of solids, liquids and gasses to decide how mixtures might be separated including through filtering, sieving and evaporating.</p> <p>. Give reasons based on comparative tests for the particular uses of everyday materials including metals, woods and plastic.</p> <p>Changes</p>	
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							<p>Demonstrate that dissolving and mixing and change of state are reversible changes.</p> <p>. Explain that some changes result in the formation of new materials and this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</p>	
SC units	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electricity	<p>Light- What lights up? How do we make things light up? - switches</p> <p>What do we use light for?</p>	<p>. Know how to stay safe when using electricity</p> <p>. exploring houses and what is needed in our home</p>				<ul style="list-style-type: none"> <li>• Identify common appliances that run on electricity.</li> <li>• Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</li> <li>• Identify whether or not a</li> </ul>		<p>. Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit.</p> <p>. Compare and give reasons for variations in how components function, including the brightness of</p>

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						<p>lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <ul style="list-style-type: none"> <li>• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</li> <li>• Recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul>		<p>bulbs, the loudness of buzzers and the on/off position of switches</p> <p>.Use recognised symbols when representing a simple circuit in a diagram.</p>
SC units	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Light	<p>Light- What lights up? How do we make things light up?</p> <p>What do we use light for?</p> <p>Understand night and day</p>	<p>. knowing how to keep safe in the dark</p> <p>. understanding that in the dark it is hard to see and be seen.</p>			<p>. Recognise that they need light in order to see things, and that dark is an absence of light.</p> <p>. Notice that light is reflected from surfaces.</p>			<p>. Recognise that light appears to travel in straight lines.</p> <p>. Use the idea that light travels in straight lines to explain that object are seen</p>

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	Think about how things look in the dark				<p>.Recognise that light from the sun can be dangerous and there are ways to protect their eyes.</p> <p>.Recognise that shadows are formed when light is blocked by an opaque object.</p> <p>. Find patterns in the way that the size of shadows change.</p>			<p>because they give out or reflect light in the eye.</p> <p>. Explain that we see things because light travels from light sources to our eyes or from light sources to objects to our eyes.</p> <p>. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>
SC units	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Earth and Space	What is in the sky? Is it the same at night?	<p>Know that there are other planets and describe what they are like.</p> <p>Understand that the sun is a long way from us.</p> <p>Discover why space travel is important</p>					<p>. Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>.Describe the movement of the moon relative to the Earth.</p>	

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							<p>. Describe the Earth, Sun and Moon as approximately spherical bodies</p> <p>. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky</p>	
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Forces and Magnets	<p>Make it move</p> <p>How can you make an object move?</p>	<p>. Explore machines and types of mechanisms</p> <p>. Learn how machines make jobs easier</p> <p>. Discover different types of transport</p> <p>. Know what happens when you push or pull something</p> <p>. Explore objects that sink or float</p>			<p>. Compare how things move on different surfaces.</p> <p>. Notice that some forces need contact between two objects but magnetic forces can act at a distance.</p> <p>. Observe how magnets can attract or repel each other and can attract some materials and not others.</p>		<p>. Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>. identify the effects of air resistance, water resistance and friction that act between moving surfaces.</p> <p>. recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</p>	

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					.Compare and group together a variety of every day materials on the basis of whether they are attracted to a magnet and identify magnetic materials . describe magnets as having two poles . predict whether magnets will attract or repel each other depending on which poles are facing.			
SC units	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sound	What can you hear?- inside and outside	. Learn about the senses of sight, touch, hearing, smell and taste . Explore ways to make sound	(From 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.			<ul style="list-style-type: none"> <li>• Identify how sounds are made, associating some of them with something vibrating.</li> <li>• Recognise that vibrations from sounds travel through a medium to the ear.</li> </ul>		

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						<ul style="list-style-type: none"> <li>• Find patterns between the pitch of a sound and features of the object that produced it.</li> <li>• Find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>• Recognise that sounds get fainter as the distance from the sound source increases.</li> </ul>		
SC units	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evolution/ inheritance	Similarities and differences in my family.	. Learn about dinosaurs that lived on Earth			(From Rocks) <ul style="list-style-type: none"> <li>• Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</li> </ul>			. 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

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								<p>of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>. Identify how plants and animals have adapted to suit their environment in different ways and that adaptation can lead to evolution.</p>
SC units	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasons	<p>. Notice changes that happen- linking to seasons/weather</p> <p>. Investigating the weather- outdoors</p>	<p>. Learn about rain, ice and water</p> <p>. Describe why the air moves</p> <p>. Explore snow and melting</p> <p>. Discover how rainbows are formed</p> <p>. Learn about seasonal changes</p>	<p>• Observe changes across the four seasons.</p> <p>• Observe and describe weather associated with the seasons and how day length varies.</p>					
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Environment						Recognise that environments can change and that this can sometimes pose dangers to living things.		. Recognise what climate is and how it changes



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								<p>. know the difference between a man made and a natural environment</p> <p>. know where different types of animals live</p>
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