

Science Scheme of Learning – Learning objectives taken from NC

	Rec	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
AUT 1	<p><u>All About Me</u></p> <p>ELG: Explore the world around them, making observations and drawing pictures of themselves and others.</p> <p>ELG: Know similarities and differences between the natural world around them</p> <p>ELG: Work and play cooperatively and take turns with others.</p>	<p><u>Seasonal Changes</u></p> <ul style="list-style-type: none"> •observe the changes across four seasons. •observe the changes across four seasons. Today's focus= Autumn •observe the changes across four seasons. Today's focus= Winter. •observe the changes across four seasons. Today's focus= Spring •observe the changes across four seasons. Today's focus= Summer •observe and describe weather associated with the seasons and how day length varies. 	<p><u>Living things and habitats</u></p> <ul style="list-style-type: none"> •explore the differences between things that are living, dead and things that have never been alive. •Identify most living things live in habitats to which they are suited and describe how different habitats provide the basic needs of different kinds of animals and plants and how they depend on each other. (lesson 2,3, 5) •Identify and name a variety of plants and animals in their habitat, 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. 	<p><u>Light</u></p> <ul style="list-style-type: none"> •recognise that we need light in order to see things and that dark is the absence of light. •understand that light is reflected Light from surfaces. •recognise that light from the sun can be dangerous and that there are ways to protect your eyes. •recognise that shadows are formed when the light source is blocked by a solid object. •find patterns in the way the size of the shadows change. •Recognise that we need light in order to see things and that dark is the absence of light. •Recognise that shadows are formed when light from a light source is blocked by an opaque object. 	<p><u>Changing State</u></p> <ul style="list-style-type: none"> •compare and group materials together according to their properties solid, liquid and gas. (lessons 1,2) •know that some materials change shape when they are heated or cooled. (lessons 3,4) •identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. (lessons 5,6) 	<p><u>Forces</u></p> <ul style="list-style-type: none"> •explain that unsporing objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. (lessons 1,2) •identify the effects of air resistance, water resistance and friction, that act between moving surfaces. (lessons 3-5) •know that some mechanisms, including levers, pulleys and gears allow a smaller force to have a great effect. 	<p><u>Animals including humans</u></p> <ul style="list-style-type: none"> •identify the main parts of the human circulatory system and describe the function of the heart, blood vessels and blood. (lessons 1-3) •Describe the ways in which nutrients and water and transported within animals including humans. •recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. (lessons 5,6)

Let's Celebrate

ELG: I can explore the world around me, making observations of colour.
 ELG: I can participate in discussions and offer my own ideas using scientific words.
 ELG: I understand some important processes and changes in the world, including colour and how they change by mixing.

Animals including humans

- identify, name, draw and label basic parts of the human body and say which part of the body is associated with each sense.
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- identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and

Materials

- identify and compare the suitability of different materials.
- identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.
- find out how the shape of solid objects made from materials can be changed by squashing, bending, twisting and stretching.
- identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper, cardboard for particular uses.
- compare and group together a variety of everyday materials on the basis of their simple properties. (lesson 5, 6)

Rocks

- compare and group together different kinds of rocks based on their appearance and simple physical properties. (lessons 1-3)
- describe in simple terms how fossils are formed when things that have lived are trapped within rock.
- recognise that soils are made from rock and organic matter. (lesson 5,6)

Animals including humans

- describe the simple functions of the digestive system in humans.
- identify different teeth in humans and name their functions.
- know how to keep my teeth healthy.
- identify and compare teeth of carnivores, herbivores and omnivores.
- construct and interpret a variety of food chains identifying producers, predators and prey by examining animal faeces (poo).
- construct and interpret a variety of food chains identifying producers, predators and prey.
- identify animal habitats in the locality and observe what they eat.

Properties of materials

- Compare and group together everyday materials based on their properties, including hardness, solubility, transparency, conductivity 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 solid, liquid and gas to decide how mixtures might be separated including through filtering, sieving and evaporation.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- 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.
- Give reasons based on evidence from comparative tests for

Evolution and inheritance

- understand 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. (lessons 2,3)
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
- identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
- recognise that normally offspring vary and are not identical to their parents' inheritance.

		<p>mammals including pets)</p> <ul style="list-style-type: none">• identify and name a variety of common animals that are carnivores, herbivores and omnivores.				<p>the particular uses of everyday materials including metals, wood and plastic.</p>	
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SPR 1	<p style="text-align: center;"><u>Seasons</u></p> <p>ELG: I can explore the world around me, making observations of colour.</p> <p>ELG: I can participate in discussions and offer my own ideas using scientific words.</p> <p>ELG: I understand some important processes and changes in the world, including colour and how they change by mixing.</p>	<p style="text-align: center;"><u>Animals including humans- ext.</u></p> <ul style="list-style-type: none"> ● identify, name, draw and label basic parts of the human body and say which part of the body is associated with each sense. ● identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. ● identify and name a variety of common animals such as minibeasts ● identify and name a variety of common animals such as birds ● identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. ● apply my learning about animals including humans. 	<p style="text-align: center;"><u>Animals including humans</u></p> <ul style="list-style-type: none"> ● notice that animals including humans have offspring which grow into adults. (lesson 1, 2) ● find out about and describe the basic needs of animals including humans for survival. (lesson 3, 4) ● describe the importance for humans of exercise, eating the right amounts if different types of food and hygiene. (lesson 5, 6) 	<p style="text-align: center;"><u>Forces and magnets</u></p> <ul style="list-style-type: none"> ● notice that some forces need contact between two objects. ● compare how things move on different surfaces. ● 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. ● notice that some forces need contact between two objects, but magnetic forces can act at a distance. ● describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing. (lessons 5,6) 	<p style="text-align: center;"><u>Sound</u></p> <ul style="list-style-type: none"> ● identify how sounds are made, associating some of them with something vibrating. ● Recognise that vibrations from sounds travel through a medium to the ear. - Recognise that sounds get fainter as the distance from the sound source increases. ● Find patterns between pitch and volume of a sound and features of the object that produced it. ● Recognise that sound gets fainter as the distance from the sound source increases. ● find patterns between pitch and volume of a sound and the features of the object that produced it. 	<p style="text-align: center;"><u>Space</u></p> <ul style="list-style-type: none"> ● Describe the movement of the Earth and other planets, relative to the sun in the solar system. (lessons 1,2) ● Describe the movement of the moon relative to the Earth. ● Describe the Sun, Earth and Moon as approximate spherical bodies. ● use the Earth's rotation to explain day and night due to the apparent movement of the sun across the sky. ● Describe the movement of the moon relative to the Earth. 	<p style="text-align: center;"><u>Electricity</u></p> <ul style="list-style-type: none"> ● compare and give reasons for variations in how components function. ● use recognised symbols when representing a simple circuit in a diagram. ● compare and give reasons for variations in how components function. ● associate the volume of a buzzer with the number and voltage of cells used in the circuit. ● design and construct simple electric circuits for a purpose. (application of...variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.) ● use and understand recognised symbols when representing a simple circuit in a diagram.
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<p style="text-align: center;">SPR 2</p>	<p style="text-align: center;"><u>Animals Development Matters</u></p> <p><u>Statements:</u> I can understand the similarities and differences of animals in this country and in other countries. I can recognise some environments that are different to the one in which they live. I can understand the effect of changing seasons on the natural world. I can engage in non-fiction books. I can revise and refine my fundamental movement skills.</p>	<p style="text-align: center;"><u>Materials/ Science Week</u></p> <ul style="list-style-type: none"> ● 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 properties of a variety of everyday materials. ● compare and group together a variety of everyday materials on the basis of their simple properties. (lesson 4-6) 	<p style="text-align: center;"><u>Animals including humans- ext./ Science Week</u></p> <ul style="list-style-type: none"> ● describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene (lessons 7-11) ● apply my knowledge of the unit and complete a knowledge test. 	<p style="text-align: center;"><u>Science Week/ Animals including humans</u></p> <ul style="list-style-type: none"> ● Manmade vs natural sources of deforestation. ● Soil quality enquiry ● Explore the effects deforestation has on animal species. ● Rewilding the local area. ● identify that humans and some other animals have skeletons and muscles for support, protection and movement. (lessons 1-4 animals) 	<p style="text-align: center;"><u>Science Week</u></p> <ul style="list-style-type: none"> ● identify ways to reduce my carbon footprint. ● identify ways to reduce my water consumption. ● understand the implications of buying food from far away. ● understand how our clothing choices have an impact on our planet. ● use my knowledge to present an argument. 	<p style="text-align: center;"><u>Science Week</u></p> <ul style="list-style-type: none"> ● Describe what a fossil fuel is and the effects of burning them. ● Identify renewable energy sources. ● To create a renewable energy source. 	<p style="text-align: center;"><u>Science Week</u></p> <ul style="list-style-type: none"> ● Identify the main causes of air pollution. ● Identify areas where air quality is likely to be different. ● Suggest reasons for why pollutant levels rise and fall. ● I can explain how air pollution can be reduced. ● Recall facts and present findings about air pollution.
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SUM 1	<p><u>People who help us</u></p> <p>ELG: Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</p> <p>ELG: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p> <p>ELG: Talk about the lives of the people around them and their roles in society.</p>	<p><u>Materials</u></p> <ul style="list-style-type: none"> • Describe the simple properties of everyday materials (lesson 1, 3) • Compare and group together a variety of everyday materials on the basis of their simple properties (lesson 2, 4) • Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. • Distinguish between an object and the material it is made from 	<p><u>Plants</u></p> <ul style="list-style-type: none"> • observe and describe how seeds and bulbs grow into mature plants. (lessons 1-6) 	<p><u>Animals including humans</u></p> <ul style="list-style-type: none"> • identify that humans and some other animals have skeletons and muscles for support, protection and movement. (lessons 5-7) • 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. (lessons 8-10) 	<p><u>Electricity</u></p> <ul style="list-style-type: none"> • identify common appliances that run on electricity. • 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 some common conductors and insulators, and associate metals with being good conductors. • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. (lesson 5,6) 	<p><u>Living things and habitats</u></p> <ul style="list-style-type: none"> • describe the differences in life cycles of a mammal, an amphibian, an insect and a bird. (Lessons 1,2) • Describe the life process of reproduction in some plants and animals. (lessons 3-6) 	<p><u>Light</u></p> <ul style="list-style-type: none"> • recognise that light appears to travel in straight lines. • 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. (lessons 3,5) • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. • 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.
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SUM 2	<p style="text-align: center;"><u>Materials</u></p> <p><u>Development Matters Objectives</u></p> <p>Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about the differences between materials and changes they notice. C&L Reception - Learn new vocabulary</p>	<p style="text-align: center;"><u>Plants</u></p> <ul style="list-style-type: none"> ● identify and describe the basic structure of a variety of common flowering plants including trees. (lesson 1 -4) ● identify and name a variety of common wild and garden plants including deciduous and evergreen trees. (Lesson 5, 6) 	<p style="text-align: center;"><u>Plants - ext</u></p> <ul style="list-style-type: none"> ● observe and describe how seeds and bulbs grow into mature plants. ● find and describe how plants need water, light and a suitable temperature to grow and stay healthy. (lessons 2-6) 	<p style="text-align: center;"><u>Plants</u></p> <ul style="list-style-type: none"> ● identify and describe the functions of different parts of a flowering plant. ● explore the requirements of plant life and growth. ● investigate the way in which water is transported within plants. ● explore the part that flowers play in the lifecycle of flowering plants including pollination, seed formation and seed dispersal. (lessons 4-6) 	<p style="text-align: center;"><u>Living things</u></p> <ul style="list-style-type: none"> ● group living things in a variety of ways. ● Explore and use classification keys to help group. ● identify and name a variety of living things in the environment. ● identify and name a variety of living things in the environment and I can explore classification keys further. ● recognise that environments can change, and this can sometimes pose changes to living things. (lessons 5,6) 	<p style="text-align: center;"><u>Animals including humans</u></p> <ul style="list-style-type: none"> ● Describe the changes as humans develop from birth to old age. ● describe the changes as humans/animals develop to old age. ● describe the changes as humans develop to old age. (lessons 3-6) 	<p style="text-align: center;"><u>Living things and habitats</u></p> <ul style="list-style-type: none"> ● 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. (lessons 1,2, 5,6) ● Give reasons for classifying plants and animals based on specific characteristics. (lessons 3,4)
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