

Science

British values: Democracy, Individual Liberty, Mutual respect, Tolerance of different faiths and belief



	Autumn	Spring	Summer
Nursery	<ul style="list-style-type: none"> Understand and talk about aspects of their familiar world, such as the place where they live or the natural world Talk about some of the things they have observed such as plants, animals, natural and found objects Talk about why things happen and how things work. Developing an understanding of growth, decay and changes over time. Show care and concern for living things and the environment Use the local area for exploring both the built and the natural environment. Observe things closely through a variety of means, including magnifiers and photographs. Teach skills and knowledge in the context of practical activities, e.g. learning about the characteristics of liquids and solids by involving children in melting chocolate or cooking eggs. <p>Unicef articles: 12, 13, 14, 17, 28, 29, 31</p>		
Reception	<ul style="list-style-type: none"> Examine change over time, e.g. growing plants and change that may be reversed, e.g. melting ice. Look closely at similarities, differences, patterns and change. Use appropriate vocabulary e.g. flat, green, tall, wet, etc. Find out about the environment by talking to people, examining photographs and visiting local places, e.g. parks and streams. Give opportunities to design practical, attractive environments, for example, taking care of the flowerbeds or organising equipment outdoors. Know about similarities and differences in relation to places, objects, materials and living things. Talk about the features of their own immediate environment and how environments might vary from one another. Make observations of animals and plants and explain why some things occur, and talk about changes. Begin to record finding, e.g. drawing, writing, making a model or photographing. Begin to answer scientific questions set such as 'What would happen if...' or 'How could I find out if...?' <p>Unicef articles: 12, 13, 14, 17, 28, 29, 31</p>		
Year 1	<p>Seasonal changes</p> <ul style="list-style-type: none"> - weather - clothing - day length 	<p>Seasonal changes</p> <ul style="list-style-type: none"> - weather - clothing - day length 	<p>Seasonal changes</p> <ul style="list-style-type: none"> - weather - clothing - day length 



Year 1

Animals including humans

- identify, name, draw and label parts of the human body including senses



Everyday materials

- name and identify everyday materials
- describe and compare materials
- compare and group materials

Unicef articles: 17, 17, 24, 28, 29

Animals including humans

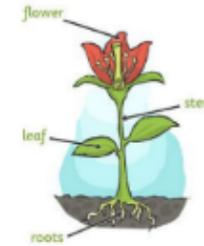
- identify and name common animals
- describe and compare animals
- understand what carnivores, herbivores and omnivores are



Unicef articles: 17, 28, 29

Plants

- identify and name common plants
- identify and describe the structure of common flowering plants



Unicef articles: 17, 6, 28, 29

Year 2

Use of everyday materials

- identify and compare the suitability of different materials
- investigating how objects can be changed by bending, squashing, twisting and stretching



Unicef articles: 17, 28, 29

Plants

- observe and describe how seeds and bulbs grow into mature plants
- investigate what plants need to grow and stay healthy



Living things and their habitats

- explore and compare differences between things that are living, dead and never lived
- identify how habitats provide for the needs of different animals and plants
- identify and name a variety of plants and animals in local habitats
- basic food chains



Unicef articles: 6, 17, 24, 28, 29

Animals including humans

- lifecycles of animals and humans
- find out about and describe the basic needs of animals, including humans, for survival
- describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.



Unicef articles: 17, 28, 29

Year 3

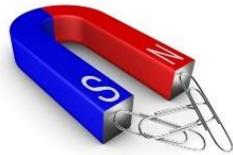
Rocks

- compare and group rocks based on appearance and physical properties
- describe how fossils are formed
- recognise what soils are made from



Forces and magnets

- compare how things move
- describe how magnetic forces work
- understand attraction and repulsion
- identify materials/objects that are magnetic



Unicef articles: 17, 28, 29

Light

- recognise how light is needed to see things
- identify sources of light and surfaces that reflect light
- understand how shadows are formed, how and why shadows change size



Animals including humans

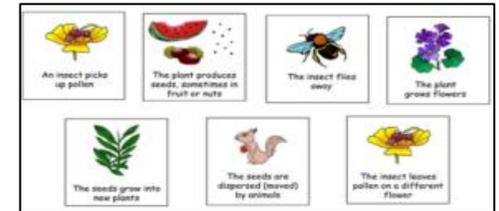
- identify what animals, including humans need to stay alive
- identify that humans and some other animals have skeletons and muscles for support, protection and movement



Unicef articles: 6, 17, 24, 27, 28, 29, 31

Plants

- identify and describe the functions of different parts of flowering plants
- explore the requirements of plants for life and growth 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



Unicef articles: 17, 28, 29

Year 4

Sound

- identify how sounds are made
- 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



Electricity

- identify appliances that run-on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts
- investigate ways in which a bulb will light up in different circuits

Living things and their habitats

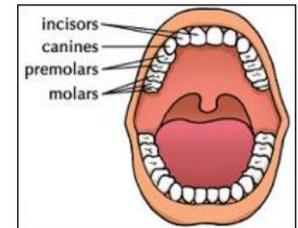
- recognise that living things can be grouped in a variety of ways
- explore and use classification keys
- recognise that environments can change and that this can sometimes pose dangers to living things



Unicef articles: 17, 28, 29

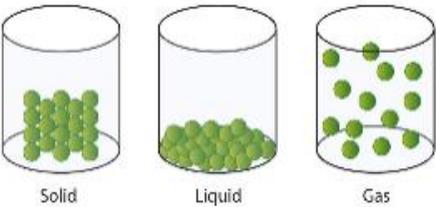
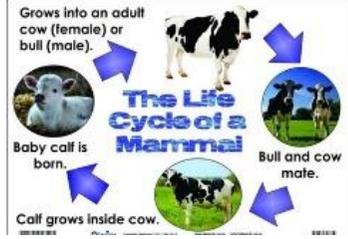
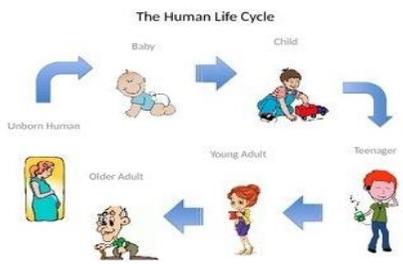
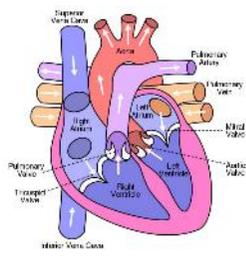
Animals including humans

- describe the simple functions of the basic parts of the digestive system in humans
 - identify the different types of teeth in humans and their simple functions
- construct and interpret a variety of food chains, identifying producers, predators and prey



States of matter

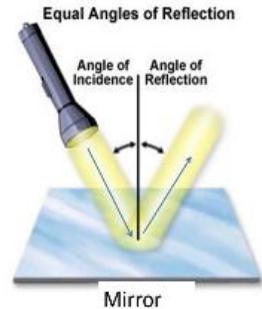
- compare and group materials, identify whether they are solids, liquids or gases
- observe that some materials change state when they are heated or cooled
- measure or research the temperature at which this happens in degrees Celsius (°C)

	<ul style="list-style-type: none"> - recognise some common conductors and insulators, and associate metals with being good conductors <p>Unicef articles: 17, 28, 29</p>		<ul style="list-style-type: none"> - identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature <p>Unicef articles: 17, 24, 28, 29,</p>
<p style="text-align: center; font-size: 24px; font-weight: bold;">Year 5</p>	<p>Properties and changes of materials</p> <ul style="list-style-type: none"> - know that some materials will dissolve and describe how to recover a substance from a solution - use knowledge of solids, liquids and gases to decide how mixtures might be separated - give reasons for the uses of everyday materials - understand reversible and irreversible changes <div style="text-align: center;">  <p>Solid Liquid Gas</p> </div> <p>Unicef articles: 17, 28, 29</p>	<p>Earth and space</p> <ul style="list-style-type: none"> - 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 - use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky <div style="text-align: center;">  </div> <p>Forces</p> <ul style="list-style-type: none"> - develop an understanding of gravity and its effects - 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 <p>Unicef articles: 17, 28, 29</p>	<p>Living things and their habitats</p> <ul style="list-style-type: none"> - 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 <div style="text-align: center;">  </div> <p>Animals including humans</p> <ul style="list-style-type: none"> - describe the changes as humans develop to old age. <div style="text-align: center;">  </div> <p>Unicef articles: 6, 17, 27, 28, 29</p>
<p style="text-align: center; font-size: 24px; font-weight: bold;">Year 6</p>	<p>Electricity</p> <ul style="list-style-type: none"> - 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 - use recognised symbols when representing a simple circuit in a diagram 	<p>Living things and their habitats</p> <ul style="list-style-type: none"> - describe how living things are according to common observable characteristics and based on similarities and differences - give reasons for classifying plants and animals based on specific characteristics 	<p>Animals including humans</p> <ul style="list-style-type: none"> - identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood <div style="text-align: center;">  </div>

Year 6

Light

- recognise that light appears to travel in straight lines and use this to explain that objects are seen because they give out or reflect light into the eye
- explain how we see things
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them



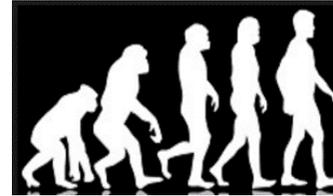
Unicef articles: 17, 28, 29

Animals including humans

- 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
- recognise that living things produce offspring, but normally offspring vary and are not identical to their parents
- identify how animals and plants are adapted to suit their environment and that adaptation may lead to evolution



Unicef articles: 6, 17, 24, 27, 28, 29,

- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- Sex Education

Unicef articles: 6, 17, 24, 27, 28, 29, 33, 34