



# Pleasant Street Primary School – Progression and Coverage



## Understanding the World *Science Links* - Nursery, Reception

**EYFS Statutory Educational Programme:** Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children’s personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children’s vocabulary will support later reading comprehension.

**Taken from Non-Statutory guidance Development Matters 3- & 4-Year Olds will be learning to:**

**Taken from Non-Statutory guidance Development Matters Reception will be learning to:**

**Early Learning Goal at the end of Reception children at the expected level of development will:**

Use all their senses in hands-on exploration of natural materials.  
Explore collections of materials with similar and/or different properties.

Talk about what they see, using a wide vocabulary.

Plant seeds and care for growing plants.

Understand the key features of the life cycle of a plant and an animal.

Begin to understand the need to respect and care for the natural environment and all living things.

Explore and talk about different forces they can feel.

Talk about the differences between materials and changes they notice.

Make healthy choices about food, drink, activity and toothbrushing.

Explore the natural world around them.

Describe what they see, hear and feel whilst outside.

Understand the effect of changing seasons on the natural world around them.

Recognise some environments that are different from the one in which they live.

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

**The Natural World ELG:**  
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 ELG:**  
Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.



# Pleasant Street Primary School – Progression and Coverage



## Science, Key Stage 1, Year 1

### Prior Knowledge

<p>Talk about what they see, using a wide vocabulary.</p>	<p>Explore the natural world around them.</p> <p>Plant seeds and care for growing plants.</p> <p>Understand the key features of the life cycle of a plant and an animal.</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants;</p>	<p>Explore the natural world around them.</p> <p>Recognise some environments that are different from the one in which they live.</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants;</p>	<p>Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties.</p> <p>Talk about the differences between materials and changes they notice.</p>	<p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand the effect of changing seasons on the natural world around them.</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants;</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>
<p><b>Working Scientifically</b></p>	<p><b>Plants</b></p>	<p><b>Animals including Humans</b></p>	<p><b>Everyday Materials</b></p>	<p><b>Seasonal Changes</b></p>
<p>Ask simple questions and recognising that they can be answered in different ways</p> <p>Observe closely, using simple equipment.</p> <p>Perform simple tests.</p> <p>Identify and classify.</p> <p>Use observations and ideas to suggest answers to questions</p> <p>Gather and record data to help in answering questions.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are herbivores, carnivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</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>Distinguish between an object and the material from which it is made</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>



# Pleasant Street Primary School – Progression and Coverage



## Science, Key Stage 1, Year 2

### Prior Knowledge

	<p><b>Plants (Y1):</b> Pupils should be able to identify and name a variety of common, wild and garden plants. They should also be able to describe the basic structure of common flowering plants including trees.</p>	<p><b>(EYFS)</b> Make healthy choices about food, drink, activity and toothbrushing.</p> <p><b>(EYFS)</b> Know and talk about the different factors that support their overall health and wellbeing:</p> <ul style="list-style-type: none"> <li>• regular physical activity</li> <li>• healthy eating</li> <li>• toothbrushing</li> <li>• sensible amounts of 'screen time'</li> <li>• having a good sleep routine</li> <li>• being a safe pedestrian</li> </ul> <p><b>(EYFS)</b> Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</p> <p><b>Animals including humans (Y1):</b> Pupils should be able to identify and name a variety of common, animals and recognise herbivores, carnivores and omnivores. They should be able to describe and compare the structure of a variety of common animals. They should be able to name, draw and label parts of the human body and understand relation to senses.</p>	<p><b>Uses of everyday materials (Y1):</b> Pupils should know the difference between an object and the material from which it is made and be able to identify and name a variety of everyday materials. They should be able to describe the physical properties of materials and compare and group them based on this information.</p>	<p><b>(EYFS)</b> Begin to understand the need to respect and care for the natural environment and all living things.</p> <p><b>(EYFS)</b> 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><b>Working Scientifically</b></p>	<p><b>Plants</b></p>	<p><b>Animals including humans</b></p>	<p><b>Uses of everyday materials</b></p>	<p><b>Living things and their habitats</b></p>
<p>Ask simple questions and recognising that they can be answered in different ways</p> <p>Observe closely, using simple equipment.</p> <p>Perform simple tests.</p> <p>Identify and classify.</p> <p>Use observations and ideas to suggest answers to questions</p> <p>Gather and record data to help in answering questions.</p>	<p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<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 from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Explore and compare the differences between things that are living, dead, and things that have 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>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>



# Pleasant Street Primary School – Progression and Coverage



## Science, Key Stage 2, Year 3

### Prior Knowledge

<p>Ask simple questions and recognising that they can be answered in different ways</p> <p>Observe closely, using simple equipment.</p> <p>Perform simple tests.</p> <p>Identify and classify.</p> <p>Use observations and ideas to suggest answers to questions</p> <p>Gather and record data to help in answering questions.</p>	<p><b>Plants (Y2):</b> Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p><b>Animals including humans (Y2):</b> Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p>	<p><b>(Y1 and Y2):</b> Distinguish between an object and the material from which it is made</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>		<p><b>(EYFS):</b> Explore and talk about different forces they can feel.</p>
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### Working Scientifically

### Plants

### Animals including humans

### Rocks

### Light

### Forces and Magnets

<p>Ask relevant questions and use different types of scientific enquires to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and where appropriate take accurate measurements using standard units and a range of equipment including data loggers and thermometers.</p> <p>Gather, record, classify and present data in variety of ways to help in answering questions.</p> <p>Record finding using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Report on findings from enquiries including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Use straightforward scientific evidence to answer questions or support findings.</p>	<p>Identify and describe the functions of different parts of flowering plants.: roots, stem/trunk, leaves and flowers.</p> <p>Explore the requirements for life and growth (air, water, light etc) and how they vary from plant to plant.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle or flowering plants including pollination, seed formation and seed dispersal.</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>Identify that humans and some other animals have skeletons and muscles for support protection and movement.</p>	<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped in rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>	<p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that the light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>Find patterns in the way that the size of shadows change.</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 attract or repel each other and tract some materials and not others.</p> <p>Compare and group together a variety of materials on the basis of whether they are attracted to a magnet and identify some magnetic materials.</p> <p>Describe magnets as having two poles.</p> <p>Predict whether two magnets will attract or repel each other depending on which poles are facing.</p>
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# Pleasant Street Primary School – Progression and Coverage



## Science, Key Stage 2, Year 4

Science, Key Stage 2, Year 4					
Prior Knowledge					
<p>Ask simple questions and recognising that they can be answered in different ways</p> <p>Observe closely, using simple equipment.</p> <p>Perform simple tests.</p> <p>Identify and classify.</p> <p>Use observations and ideas to suggest answers to questions</p> <p>Gather and record data to help in answering questions.</p>	<p><b>Living things and their habitats (Y2):</b> Explore and compare the differences between things that are living, dead, and things that have 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>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>	<p><b>Animals including humans (Y2):</b> Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p><b>Animals including humans (Y3):</b> 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><b>(Y1 and Y2):</b> Distinguish between an object and the material from which it is made Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>		
Working Scientifically	Living things and their habitats	Animals including humans	States of Matter	Sound	Electricity
<p>Ask relevant questions and use different types of scientific enquires to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and where appropriate take accurate measurements using standard units and a range of equipment including data loggers and thermometers.</p> <p>Gather, record, classify and present data in variety of ways to help in answering questions.</p> <p>Record finding using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Report on findings from enquiries including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Use straightforward scientific evidence to answer questions or support findings.</p>	<p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in the local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>Describe the simple functions of basic parts of the digestive system in human.</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>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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.</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and the features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>Identify whether or not a lamp will light a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors or insulators, and associate metals with being good conductors.</p>



# Pleasant Street Primary School – Progression and Coverage



## Science, Key Stage 2, Year 5

### Prior Knowledge

<p>Ask relevant questions and use different types of scientific enquires to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and where appropriate take accurate measurements using standard units and a range of equipment including data loggers and thermometers.</p> <p>Gather, record, classify and present data in variety of ways to help in answering questions.</p> <p>Record finding using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Report on findings from enquiries including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Use straightforward scientific evidence to answer questions or support findings.</p>	<p><b>Animals including humans (Y2):</b> Notice that animals, including humans, have offspring which grow into adults</p>	<p><b>Animals including humans (Y2):</b> Notice that animals, including humans, have offspring which grow into adults</p>	<p><b>Forces and Magnets (Y3):</b> Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and tract some materials and not others.</p> <p><b>States of Matter (Y4):</b> Compare and group materials together, according to whether they are solids, liquids or gases.</p>	<p><b>Light (Y3):</b> Recognise that the light from the sun can be dangerous and that there are ways to protect their eyes.</p>	<p><b>(EYFS):</b> Explore and talk about different forces they can feel.</p> <p><b>Forces and Magnets (Y3):</b> Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and tract some materials and not others.</p>
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<b>Working Scientifically</b>	<b>Living things and their habitats</b>	<b>Animals including humans</b>	<b>Properties and changes of materials</b>	<b>Earth and Space</b>	<b>Forces</b>
<p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>Describe the difference in life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<p>Describe the changes as humans move into old age.</p>	<p>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.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Give reasons, based on evidence from comparative and far tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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.</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> <p>Describe the Sun, Earth 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>	<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>



# Pleasant Street Primary School – Progression and Coverage



## Science, Key Stage 2, Year 6

### Prior Knowledge

<p>Ask relevant questions and use different types of scientific enquires to answer them.</p> <p>Set up simple practical enquiries, comparative and fair tests.</p> <p>Make systematic and careful observations and where appropriate take accurate measurements using standard units and a range of equipment including data loggers and thermometers.</p> <p>Gather, record, classify and present data in variety of ways to help in answering questions.</p> <p>Record finding using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Report on findings from enquiries including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Use straightforward scientific evidence to answer questions or support findings.</p>	<p><b>Living things and their habitats (Y2):</b> 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><b>Animals including humans: (Y1):</b> 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>Animals including humans: (Y2):</b> Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p><b>Animals including humans: (Y3):</b> 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>Identify that humans and some other animals have skeletons and muscles for support protection and movement.</p>	<p><b>Animals including humans (Y2):</b> Notice that animals, including humans, have offspring which grow into adults</p> <p><b>Living things and their habitats (Y2):</b> 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><b>Light (Y3):</b> Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that the light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p><b>Electricity (Y4):</b> Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>Identify whether or not a lamp will light a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors or insulators, and associate metals with being good conductors.</p>
<h3>Working Scientifically</h3>	<h3>Living things and their habitats</h3>	<h3>Animals including humans</h3>	<h3>Evolution and Inheritance</h3>	<h3>Light</h3>	<h3>Electricity</h3>
<p>Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</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>	<p>Identify and name the main parts of the human 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 way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</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 objects are seen because they give out or reflect light into the eye.</p> <p>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.</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>	<p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>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.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>