

	Science	Art and Design	Design and Technology	History	PE	Computing
Programme of Study	<p>Ask relevant questions and using different types of scientific enquiries to answer them.</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</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, using a range of equipment, including thermometers and data loggers.</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>Use straightforward scientific evidence to answer questions or to support their findings.</p> <p>Identify differences, similarities or changes related to simple scientific ideas and processes.</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 (°C).</p>	<p>Improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials (for example, pencil, charcoal, paint, clay).</p> <p>Learn about great artists, architects and designers in history.</p>	<p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</p> <p>Investigate and analyse a range of existing products.</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p>	<p>Understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically valid questions and create their own structured accounts, including written narratives and analyses.</p>	<p>Perform dances using a range of movement patterns.</p>	<p>Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p>

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Year 4 Learning Intention (skills)	<p>Ask relevant scientific questions, independently, about the world around them and begin to identify how they can answer them.</p> <p>Group and sort materials into solids, liquids or gases.</p> <p>Begin to independently plan, set up and carry out a range of comparative and fair tests, making predictions and following a method accurately.</p> <p>Take accurate measurements in standard units, using a range of equipment.</p> <p>Use scientific vocabulary to report and answer questions about their findings based on evidence collected, draw simple conclusions and identify next steps, improvements and further questions.</p> <p>Begin to choose which observations to make and for how long and make systematic, careful observations and comparisons, identifying changes and connections.</p> <p>Observe and explain that some materials change state when they are heated or cooled and measure or research the temperature in degrees Celsius (°C) at which materials change state.</p>	<p>Use clay to create a detailed 3-D form.</p> <p>Develop techniques through experimentation to create different types of art.</p> <p>Compare and contrast artwork from different times and cultures.</p>	<p>Choose from a range of materials, showing an understanding of their different characteristics.</p> <p>Investigate and identify the design features of a familiar product.</p> <p>Select, name and use tools with adult supervision.</p> <p>Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements.</p>	<p>Present a thoughtful selection of relevant information in a historical report or in-depth study.</p>	<p>Compare, develop and adapt movements and motifs to create movement patterns in response to stimuli.</p>	<p>Manipulate a range of text, images, sound or video clips and animation for given purposes.</p> <p>Apply computing skills to use new computing software.</p>

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Year 4 Knowledge	<p>Questions can help us find out about the world and can be answered using scientific enquiry.</p> <p>Materials can be grouped according to whether they are solids, liquids or gases. Solids stay in one place and can be held. Some solids can be squashed, bent, twisted and stretched. Examples of solids include wood, metal, plastic and clay. Liquids move around (flow) easily and are difficult to hold. Liquids take the shape of the container in which they are held. Examples of liquids include water, juice and milk. Gases spread out to fill the available space and cannot be held. Air is a mixture of gases.</p> <p>Scientific enquiries can be set up and carried out by following or planning a method. A prediction is a statement about what might happen in an investigation, based on some prior knowledge or understanding. A fair test is one in which only one variable is changed and all others remain constant.</p> <p>Equipment is used to take measurements in standard units. Examples include data loggers plus sensors, timers (seconds, minutes and hours), thermometers (°C), and metre sticks, rulers or trundle wheels (millimetres, centimetres, metres).</p> <p>Results are information, such as data or observations, that have been found out from an investigation. A conclusion is the answer to a question that uses the evidence collected.</p> <p>An observation involves looking closely at objects, materials and living things. Observations can be made regularly to identify changes over time.</p> <p>Heating or cooling materials can bring about a change of state. This change of state can be reversible or irreversible. The temperature at which materials change state varies depending on the material. Water changes state from solid (ice) ⇌ liquid (water) at 0°C and from liquid (water) ⇌ gas (water vapour) at 100°C. The process of changing from a solid to liquid is called melting. The reverse process of changing from a liquid to a solid is called freezing. The process of changing from a liquid to a gas is called evaporation. The reverse process of changing from a gas to a liquid is called condensation.</p>	<p>Techniques used to create a 3-D form from clay include coiling, pinching, slab construction and sculpting. Carving, slip and scoring can be used to attach extra pieces of clay. Mark making can be used to add detail to 3-D forms.</p> <p>Materials, techniques and visual elements, such as line, tone, shape, pattern, colour and form, can be combined to create a range of effects.</p> <p>Artwork has been used at different times and in different cultures to express ideas about storytelling, religion and intellectual satisfaction. Similarities and differences between artwork can include the subject matter, style and use of colour, texture, line and tone.</p>	<p>Different materials and components have a range of properties, making them suitable for different tasks. It is important to select the correct material or component for the specific purpose, depending on the design criteria. Recipe ingredients have different tastes and appearances. They look and taste better and are cheaper when in season.</p> <p>Design features are the aspects of a product's design that the designer would like to emphasise, such as the use of a particular material or feature that makes the product easier to use or more durable.</p> <p>Useful tools for cutting include scissors, craft knives, junior hacksaws with pistol grip and bench hooks. Useful tools for joining include glue guns. Tools should only be used with adult supervision and safety rules must be followed.</p> <p>Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made. Evaluation also includes suggesting improvements and explaining why they should be made.</p>	<p>Relevant historical information can be presented as written texts, tables, diagrams, captions and lists.</p>	<p>Movement patterns can represent an important or recurring idea called a motif. They can be inspired by stimuli, such as music, a story, theme or topic.</p>	<p>Manipulating a range of text, images, sound or video clips and animation may include changing their style, size, colour, effect, shape, location or format.</p> <p>New computing software commonly has features that should be familiar to users, such as icons or terminology.</p>