



Design and Technology

Key stage aims:

The key aims for pupils within key stage 1 in terms of design and technology are to:

Design:

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make:

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate:

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge:

- Build structures, exploring how they can be made stronger, stiffer and more stable
- Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

The key aims for pupils within key stage 2 in terms of design and technology are to:

Design:

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make:

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately





- 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

Evaluate:

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge:

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Ashington Learning Partnership





Useful Vocabulary:

<p>A</p> <p>Aesthetics Analysis Accurate Annotate Advise</p> <p>B</p> <p>Batch production Brainstorming Brand Being safe</p> <p>C</p> <p>CAD CAM Client Conductivity Corrosion Consumer Computer Cut Create Cooking Communication</p>	<p>D</p> <p>Design Design brief Development Ductility Durability Develop draw</p> <p>E</p> <p>Ergonomics Evaluation Evaluate equipment</p> <p>F</p> <p>Feedback Flexibility Function finish</p> <p>G</p> <p>Graphics</p> <p>H</p> <p>hammer</p>	<p>I</p> <p>image installation investigation ingredient</p> <p>J</p> <p>join</p> <p>K</p> <p>kiln</p> <p>L</p> <p>latex paint linseed oil low-relief</p> <p>M</p> <p>Malleable Media Manufacturer Market research Mass production Model Make Mock-up Mechanism</p> <p>O</p> <p>One off production</p>	<p>P</p> <p>paint palette palette knife paper pen pencil photo photograph pottery pounce primary colour patent pattern planning product designer prototype product problem solving</p> <p>Q</p> <p>Quality assurance Quality control Questionnaire</p> <p>R</p> <p>Ruler Recycle Reduce Refuse Repair Research Retailer Rethink Reuse Recipe resilience</p>	<p>S</p> <p>scale sketch solvent stone stonecutting style shelf life strength sustainable structure self motivation</p> <p>T</p> <p>template tools t-square tube turpentine tensile strength testing toughness teamwork</p> <p>U</p> <p>undertone</p> <p>V</p> <p>varnish video visual</p> <p>W</p> <p>wax wood wood carving woodcut print wood engraving</p>
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Activities in each year group:

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
1	How can I build a street without bricks?					
2	How can I build a castle that can withstand invasion?				Art focus	
3	Can you create a Roman style Mosaic?		What effect did the eruption have on the people of Pompeii?	Design an earthquake proof structure.	How can you apply your knowledge of healthy eating to design your own recipes?	How can you design/create/test and evaluate your own smoothie company?
4	How healthy was an Anglo Saxon diet?	How were Anglo Saxon homes built?	Dreamcatchers	Totem Poles - How can a structure represent a community?	How can you design/create/test and evaluate a sustainable sandwich company?	
5	Design/make and evaluate Tudor puppets		How do Egyptians decorate and create Canopic jars?		Exploring a range of different techniques used by artists throughout history.	Primary Engineer - Can you design and make a car using pulleys and gears?
6	What food would have been served on the titanic?		Can you design a functional coat for an Antarctic expedition?		Fashion Design - Study Mexican clothing and designers	Mexican street food study

