



Glebe Academy
Design and Technology Key Skills

Key Stage 1

Year 1:

Design and Technology/Planning, knowledge and evaluation

- ✓ Draw a simple picture of an intended design with basic labelling.
- ✓ Use ICT packages to create a simple plan for a design.
- ✓ With help, put ideas into practice.
- ✓ Describe others' work, including work by professional craftspeople and designers and say what they like and dislike about it.
- ✓ Describe how an existing product works (e.g. 'the toy moves when I turn the handle').
- ✓ Talk about their own work and others' work identifying strengths or weaknesses.
- ✓ Order products or designs chronologically and begin to explain reasons why they are ordered in that way.

Design and Technology/Making, using and understanding

- ✓ Select and explain why they have chosen a particular tool for a task.
- ✓ Select and explain their choice of materials, sometimes with help.
- ✓ Explain how to keep safe during a practical task.
- ✓ Explain how they would fix simple products.
- ✓ Cut out shapes from a range of fabrics and papers.
- ✓ Fold, tear, roll and cut paper and card.
- ✓ Cut accurately and safely with scissors.
- ✓ Join appropriately, using glue or tape.
- ✓ Build simple structures.
- ✓ Use wheels, axles, levers and sliders.
- ✓ Identify and talk about products that use electricity to make them work.
- ✓ Input random control instructions to simple devices for an unplanned outcome (e.g. making Roamer move).
- ✓ Measure and weigh food items using non-standard measures (e.g. spoons and cups).
- ✓ Identify the main food groups, including fruit and vegetables.
- ✓ Identify the source for common foods.

Year 2:

Design and Technology/Planning, knowledge and evaluation

- ✓ Produce detailed, labelled drawings or models of products based on design criteria.
- ✓ Use ICT packages to create a labelled design or plan.
- ✓ Think of ideas and plan what to do next, based on their experience of working with materials and components.
- ✓ Describe similarities and differences between own and others' work including work by professional craftspeople and designers.
- ✓ Investigate a range of existing products and say if they do what they are supposed to do.
- ✓ Explain how closely, finished products, meet their design criteria and say what they could do better in the future.
- ✓ Describe why a design, building or designer is important.

Design and Technology/Making, using and understanding

- ✓ Use tools safely for cutting and joining materials and components.
- ✓ Choose appropriate materials and suggest ways of manipulating them to achieve a desired effect.
- ✓ Work safely and hygienically in construction and cooking activities.
- ✓ Cut, measure, form and shape materials to fix or repair something, explaining objectives.
- ✓ Join fabrics using running stitch, glue, staples, oversewing and tape.
- ✓ Create simple hinges and pop-ups using card.
- ✓ Cut wood/dowel using a bench hook and hacksaw.
- ✓ Attach features to a vehicle(e.g. an axle and wheels or a sail and rudder).
- ✓ Join appropriately, with glue and/or tape, for different materials and situations.
- ✓ Improve structures by making them stronger, stiffer and more stable.
- ✓ Create and use wheels and axles, levers and sliders.
- ✓ Create working circuits to light a bulb or work a buzzer.
- ✓ Input a sequence of instructions to a device for a planned outcome.
- ✓ Cut, peel, grate and chop a range of ingredients to make dishes from other countries.
- ✓ Recognise the need for a variety of foods in a diet.
- ✓ Explain where the food they eat comes from (e.g. by referring to countries, counties, animals and plants).

Key Stage 2

Year 3:

Design and Technology/Planning, knowledge and evaluation

- ✓ Share ideas through words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose.
- ✓ Use ICT packages to create a labelled design or plan, in detail.
- ✓ Make realistic plans, identifying processes, equipment and materials needed.
- ✓ Compare and contrast great bridge designs, explaining why a particular design is significant in engineering history.
- ✓ Investigate the design features (including identifying components or ingredients) of familiar existing products.

- ✓ Suggest improvements to products made and describe how to implement them (taking the views of others into account).
- ✓ Explain the impact of a design or designer on design history and how this has helped to shape the world.

Design and Technology/Making, using and understanding

- ✓ Select the appropriate tools and explain choices.
- ✓ Plan which materials will be needed for a task and explain why.
- ✓ Follow health and safety rules for cooking and baking activities.
- ✓ Try an alternative way of fixing something, if their first attempt isn't successful.
- ✓ Create a simple pattern for a design.
- ✓ Cut slots in card and create nets.
- ✓ Measure and mark wood/dowel.
- ✓ Join fabrics using a running stitch.
- ✓ Create a shell or frame structure using diagonal struts to strengthen.
- ✓ Create and use simple gears, pulleys, cams, levers and linkages.
- ✓ Build models incorporating circuits with buzzers and bulbs.
- ✓ Evaluate their own programme, refine and improve it.
- ✓ Combine a variety of ingredients using a range of cooking techniques.
- ✓ Describe what a balanced diet is.
- ✓ Identify food which comes from the UK and other countries in the world.

Year 4:

Design and Technology/Planning, knowledge and evaluation

- ✓ Collect information from a number of different sources and use this information to inform design ideas in words, labelled sketches, diagrams and models, keeping in mind fitness for purpose and the end user.
- ✓ Use ICT packages to create alternatives for an initial design.
- ✓ Make realistic, step by step plans, reflecting on designs as the product develops.
- ✓ Describe the work of a favourite fashion designer and explain why they like his/her designs.
- ✓ Explain how an existing product is useful to the user.
- ✓ Identify what has worked well and what could be improved, evidencing and explaining the results of research.
- ✓ Explain how fashions and fabrics have changed over time and how this has affected fashion.
- ✓ Explain how the design of a product has changed over time.

Design and Technology/Making, using and understanding

- ✓ Analyse the potential of a range of tools and use them with accuracy.
- ✓ Choose from a range of materials showing an understanding of their different characteristics.
- ✓ Follow health and safety rules when working with materials and substances.
- ✓ Describe how a product could be made better, stronger or more sustainable.

- ✓ Use a simple pattern to create a life-sized item of clothing.
- ✓ Use more complex pop-ups.
- ✓ Cut internal shapes.
- ✓ Use a glue gun with close supervision (one to one).
- ✓ Prototype and build frame and shell structures, showing awareness of how to strengthen, stiffen and reinforce.
- ✓ Use pulleys, levers and linkages in their products.
- ✓ Build models incorporating motors.
- ✓ Create a solution to a problem using a control output device that has a sequence of events that activate it.
- ✓ Measure and weigh ingredients appropriately to prepare and cook a range of savoury dishes.
- ✓ Make healthy eating choices and explain why.
- ✓ Explain some of the processes that foods go through to preserve/make them more appealing.

Year 5:

Design and Technology/Planning, knowledge and evaluation

- ✓ Use various sources of information, clarifying/sharing ideas through discussion, labelled sketches, cross-sectional diagrams and modelling, recognising that ideas have to meet a range of needs.
- ✓ Use CAD and CAM packages to suggest alternative design ideas and explain their ideas and intentions.
- ✓ Work from own detailed plans, modifying them where appropriate.
- ✓ Research the work done by textile artists and say what they like about a piece, identifying the techniques and materials used in creating it and the aesthetic value.
- ✓ Investigate the design features (including identifying components or ingredients) of a familiar existing product in the context of the culture or society in which it was designed or made.
- ✓ Test and evaluate products against a detailed design specification and make adaptations as they develop the product.
- ✓ Create a timeline to sequence the development of a design over time and describe how technology has influenced it.

Design and Technology/Making, using and understanding

- ✓ Name and select appropriate tools for a task and use them with precision.
- ✓ Select and combine materials with precision.
- ✓ Select and name appropriate tools for specific jobs and demonstrate how to use them safely.
- ✓ Recycle, repair and mend old clothes/tools and explain why this is a good idea.
- ✓ Create a 3-D product using a range of materials and sewing techniques.
- ✓ Combine materials with temporary or fixed joints.
- ✓ Cut safely and accurately to a marked line.
- ✓ Use a glue gun with close supervision.
- ✓ Build a framework using a range of materials (e.g. wood, card and corrugated plastic) to support mechanisms.
- ✓ Use cams or gears in their products.
- ✓ Build models, incorporating switches to turn on and off.
- ✓ Monitor and control more than one output, in response to changes.

- ✓ Combine food ingredients appropriately (e.g. kneading, rubbing in and mixing).
- ✓ Evaluate meals and consider if they contribute towards a balanced diet.
- ✓ Explain what times of year particular foods are in season.

Year 6:

Design and Technology/Planning, knowledge and evaluation

- ✓ Develop detailed criteria for designs for products aimed at particular individuals or groups, sharing ideas through cross-sectional and exploded diagrams, prototypes and pattern pieces.
- ✓ Use CAD/CAM packages to design moving parts of a design.
- ✓ Check work as it develops and modify their approach in the light of progress.
- ✓ Research cultural traditions and evidence their influence in their own work.
- ✓ Explain the form and function of familiar existing products.
- ✓ Demonstrate modifications made to a product, as a result of ongoing evaluation, by themselves and others.
- ✓ Describe how an individual in the field of design and technology has helped shape the world.

Design and Technology/Making, using and understanding

- ✓ Use more complex tools with increasing accuracy.
- ✓ Choose the best materials for a task, showing an understanding of their working characteristics.
- ✓ Demonstrate how their products take into account the safety of the user.
- ✓ Paint, glue, nail and sand to rejuvenate a damaged, faulty or old object.
- ✓ Combine fabrics to create more useful properties and make a product of high quality, checking for snags and glitches.
- ✓ Combine materials with moving joints.
- ✓ Use a craft knife, cutting mat and safety ruler with one to one supervision if needed.
- ✓ Join materials, using the most appropriate method for the materials or purpose.
- ✓ Select the most appropriate materials and frameworks for different structures, explaining what makes them strong.
- ✓ Select the most appropriate mechanical system for a particular purpose.
- ✓ Design products incorporating the most appropriate electrical systems.
- ✓ Develop, try out and refine sequences of instructions to effectively monitor, measure and control events.
- ✓ Use appropriate tools and equipment, weighing and measuring with scales.
- ✓ Plan how they can have a healthy/affordable diet.
- ✓ Explain how ingredients were grown, reared, caught and processed.