



Bolton Primary School
Design & Technology
2024-2026

Design & Technology Policy

Purpose of Study

Design and technology is a practical subject. Using creativity and imagination, pupils design and make products that solve real relevant problems within a variety of contexts. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world.

Aims

Our aims in teaching D&T are that all children will:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high quality prototypes and products for a wide range of users.
- Critique, evaluate and test their ideas and the work of others.
- Understand and apply the principles of nutrition and how to cook.

Content

Early Years

Children will be given the opportunities to use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Children will be encouraged to use what they have learnt about media and materials in original ways, thinking about uses and purposes. They will represent their own ideas, thoughts and feelings through design alongside other areas of the curriculum. Children will be shown how to use equipment and tools effectively.

Key Stage 1:

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

Key Stage 2:

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 (CAD taught through Computing)

Teaching and Learning:

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts; for example, the home and school, gardens and playgrounds and the local community. All children will study Design & Technology alternating with Art across a year. Six units will be studied in 6-week blocks across a 2-year cycle. The knowledge, skills and understanding will be taught within DT topics to ensure continuity and progression through the two key stages and to provide a sound structure on which to build as they continue to KS3. The children will generally work in small groups and the lesson content will be pitched to the children's individual needs, interests and abilities. Where possible cross curricular links will be made and visits, visitors, drama & role play will enhance the meeting of objectives. All units will be planned and monitored by teaching staff; sometimes the lesson maybe taught and delivered by TAs.

Disadvantaged: The school is committed to raising achievement for disadvantaged young people. Teachers and teaching assistants will ensure an equitable approach and give more support, guidance and challenge to our disadvantaged in all our lessons.

RESOURCES

CLASSROOM RESOURCES IN D&T include:

- A variety of regularly used tools and materials for cutting, joining and combining (e.g. scissors, glue)
- Paper, card and junk modelling materials
- Sculpting materials/textiles
- Construction kits appropriate to the age of the pupils.

CENTRAL RESOURCES IN D&T is the responsibility of all staff and is purchased from the central budget. They include:

- A wider range of less commonly used tools for cutting, shaping, joining, combining and finishing (e.g. woodwork tools)
- Mouldable materials (e.g. clay, plaster of Paris) and textiles.

Differentiation:

Those with particular special needs may have extra support for the activities or the language content altered. The recording of information can be changed to oral or pictorial communication and resources modified to be accessed more easily. When necessary, pupils with special needs receive support from the class teacher or an adult and are supported to undertake exercises or projects geared to their level of ability or to take an effective and valuable role in mixed ability co-operative group work. Pupils with a particular ability and flair for Design and Technology are extended through the use of additional, more demanding assignments.

HEALTH AND SAFETY ISSUES IN D&T include:

- Use of materials, tools and technology in accordance with health and safety requirements
- Appropriate storage of tools and materials
- Teaching pupils to recognise hazards in a range of products, activities and environments and take action to control the risks to themselves and others.

Assessment:

There will be a unit assessment at the end of the block of learning based on key learning objectives. Assessment will also take place informally through observation, open questioning, discussions and reviewing children's work. This information will be recorded on our school's foundation tracking sheets and shared termly with parents.

Evaluation. Monitoring and Review:

This policy is a working document and should be updated every two years. This policy was reviewed in the summer term 2024 and is due for another review in the summer term 2026. The subject lead is Bianca Cousin and there is a governor responsible for monitoring Design Technology in the curriculum.

This policy was reviewed AUT 2024 and will be reviewed again AUT 26.

Subject Co-ordinator: Bianca Cousin (Since September 2025)

Design & Technology at Bolton

Design and Technology at Bolton with Reception children focusses on developing their problem-solving, creativity and practical skills through hands-on activities. At this early stage, the emphasis is on exploration, experimentation and learning through play. Some of the key aspects that we focus on during DT in Reception are developing their fine motor skills, encouraging creativity, understanding materials, problem-solving and teamwork and collaboration. Children are given the opportunity to complete activities involving cutting, sticking, folding and threading to improve their coordination. They will have open ended projects to allow them to express themselves with their own designs and ideas. The children will be introduced to a range of materials such as paper, cardboard, fabric and their properties. The children will engage in tasks that require thinking and decision making, such as building simple structures. They will also be given the opportunity to work in groups and develop their communication and cooperation skills. Activities could include using Lego or recycled materials to create structures. Making simple models or puppets and using basic tools.

For the Early Years children, we use a very child-centred approach for their learning. Activities are often play-based and follow the children's interest or theme. We make links to our Literacy, Maths and themes throughout the year. We allow children to experiment and learning from their mistakes to encourage resilience and independent thinking. DT in Reception is all about laying the foundations for practical skills and fostering a love for creating and problem-solving in a safe and engaging environment.

Design and Technology in Key Stage 1 introduces the children to the foundational principles of designing, making and evaluating through practical and creative activities. In Key Stage 1, the children are taught Design and Technology by an experienced teacher. They have an DT unit each term focussing on a specific skill. The curriculum focuses on developing their skills and understanding in the following areas: structures, food technology, mechanisms and textiles. Children are given the opportunity to explore and construct different structures that are stable and functional. Children will also learn about the basics of food preparation, safety and healthy eating. Children will explore where food comes from and the importance of a balanced diet. For mechanisms, children will learn about how moving parts can be used in products. They will explore wheels and axles, sliders and levers in a range of activities. When working with fabrics, children will develop basic sewing and joining techniques and will learn how to thread needles, sew basic stitches and join materials. They will also explore patterns, textures and colours.

There will be cross curricular links with other subjects, such as maths for measures, Science thinking about materials and forces and art for design and decoration. Children will be able to explore their ideas and evaluate their outcomes and make improvements. The hands-on approach helps KS1 children build confidence in designing and create while developing practical skills that will lead into KS2.

At KS2, Design & Technology is taught by Billy Drinkall-Jones, who has a GCSE and an A Level in the subject (AQA Graphics, A*; WJEC Product Design, A*) and has plenty of experience teaching and coordinating the subject in primary schools.

Nationally, schools' coverage of Design & Technology can be very hit-and-miss. It can be a full-on, resource-heavy, time-consuming subject and is not regarded with the same respect as more traditionally academic subjects like Maths and English. Therefore, rather than really immersing pupils in a well-structured unit of study, time is saved by tacking the subject on to the end of a unit of learning in another subject, for example by making a model of a Viking ship or cooking some Viking bread. Though certainly fun and memorable experiences, activities like these lack the depth and rigour of 'proper' Design & Technology and come nowhere near meeting the requirements of the National Curriculum.

At Bolton, children in KS2 study three Design & Technology units per year, one each term. They are taught by the subject coordinator on a Wednesday afternoon and this time is protected: as a specialist teacher comes in to teach the subject, it's never overlooked or substituted for finishing off work from other lessons. The units children study are stand-alone and not linked to topics in other subjects. Where appropriate links are made between Design & Technology and other subjects, and this can be very useful. For example, children's learning about electrical circuits in Science is essential for them to create a functioning electrical device in Design & Technology. However, purposely making the units of study stand-alone means that they are chosen based on the subject-specific skills that the children need to be taught, and opens up many more possibilities. It also helps pupils to appreciate the distinctiveness of the range of subjects that they study.

Design & Technology units of work broadly follow the structure of Design, Make, Evaluate. The Design process encourages creativity: a vital skill in our ever-changing world. The Make process allows pupils to make their ideas a reality and gives them the opportunity to practise key skills, including safely using a range of tools. The Evaluate process helps children to reflect on their progress, suggest areas of strengths and areas for improvement, and determine what steps they could take in future to perform even better; skills which are transferable to many areas of their lives.

Over the course of each two-year cycle, pupils will study a unit based on one of each of the following strands of Design & Technology. These six strands are: Food Technology, Mechanical Systems, Structures, Textiles, Digital Technology and Electrical Systems. The complexity of units studied and products made increases between Class 2 and Class 3.

As well as the 'hard skills' identified above and in the National Curriculum, Design & Technology is the perfect subject to help children develop some of their 'soft skills'. Often working in together, children experience groupwork, managing conflict and leadership skills.

They also learn to be resilient, adaptive and to problem-solve when things don't go to plan, as well as how to manage their time well and communicate effectively both verbally and visually.

Strengths and Next Steps

Strengths	Next Steps
<p>1. Focus: Quality of Education</p> <ul style="list-style-type: none">• As reflective practitioners, continue to develop the D&T Curriculum in terms of progression of skills• Evidence of 'sequential' learning <p>2. Focus: Behaviour and Attitudes</p> <ul style="list-style-type: none">• Pupils talk positively about Design and Technology and the school has risen the profile of the subject within the curriculum. Pupil questionnaires (pupil voice)• <p>3. Focus: Personal Development of Children</p> <ul style="list-style-type: none">• Each unit has a knowledge organiser to aid memory and embed learning and so that recapping can take place• Assessment is being developed well in the subject and takes into account different learning styles and SEND. <p>4. Focus: Leadership and Management</p> <ul style="list-style-type: none">• Pupils are taught in separate LKS2 and UKS2 classes, thus improving learning outcomes• Greater adaptation of schemes take place to suit the needs of the school and children.• Subject leader reviews topics annually regularly makes changes e.g. order of topics for better balance.	<p>1. Focus: Quality of Education</p> <ul style="list-style-type: none">• To develop assessment methods within D&T <p>2. Focus: Behaviour and Attitudes</p> <ul style="list-style-type: none">• Check on high expectations and pride in work - link to non-negotiables/ spelling of given words etc. <p>3. Focus: Personal Development of Children</p> <ul style="list-style-type: none">• Children to be more aware of significant events/people who have shaped the world through technology. <p>4. Focus: Leadership and Management</p> <ul style="list-style-type: none">• For subject lead to attend CPD and to deliver CPD to all staff members• Subject lead to observe teaching of D&T in KS1• Subject lead to look more closely at the EYFS provisions and to work alongside EYFS staff to further develop the appropriate skills that will be a good foundation for children entering KS1• To further develop subject monitoring with D&T link governor

Progression of Skills in DT at Bolton

	KS1	LKS2	UKS2
Design	<p>KS1 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.</p> <p>They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</p> <p>Children design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Children can:</p> <ul style="list-style-type: none"> a use their knowledge of existing products and their own experience to help generate their ideas; b design products that have a purpose and are aimed at an intended user; c explain how their products will look and work through talking and simple annotated drawings; d design models using simple computing software; e plan and test ideas using templates and mock-ups; f understand and follow simple design criteria; g work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment. 	<p>KS2 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.</p> <p>They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>Children 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.</p> <p>They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p> <p>Children can:</p> <ul style="list-style-type: none"> a identify the design features of their products that will appeal to intended customers; b use their knowledge of a broad range of existing products to help generate their ideas; c design innovative and appealing products that have a clear purpose and are aimed at a specific user; d explain how particular parts of their products work; e use annotated sketches and cross-sectional drawings to develop and communicate their ideas; f when designing, explore different initial ideas before coming up with a final design; g when planning, start to explain their choice of materials and components including function and aesthetics; h test ideas out through using prototypes; i use computer-aided design to develop and communicate their ideas (see note on p. 1); j develop and follow simple design criteria; k work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment. 	<p>KS2 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.</p> <p>They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>Children 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.</p> <p>They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p> <p>Children can:</p> <ul style="list-style-type: none"> a use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market; b use their knowledge of a broad range of existing products to help generate their ideas; c design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; d explain how particular parts of their products work; e use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas; f generate a range of design ideas and clearly communicate final designs; g consider the availability and costings of resources when planning out designs; h work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.

Make	<p>KS1 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.</p> <p>Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].</p> <p>They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Children can:</p> <p>Planning</p> <ul style="list-style-type: none"> a with support, follow a simple plan or recipe; b begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; c select from a range of materials, textiles and components according to their characteristics; <p>Practical skills and techniques</p> <ul style="list-style-type: none"> d learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; e use a range of materials and components, including textiles and food ingredients; f with help, measure and mark out; g cut, shape and score materials with some accuracy; h assemble, join and combine materials, components or ingredients; i demonstrate how to cut, shape and join fabric to make a simple product; j manipulate fabrics in simple ways to create the desired effect; k use a basic running stitch; l cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups; m begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations. 	<p>KS2 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.</p> <p>Children 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>They 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>Children can:</p> <p>Plan</p> <ul style="list-style-type: none"> a with growing confidence, carefully select from a range of tools and equipment, explaining their choices; b select from a range of materials and components according to their functional properties and aesthetic qualities; c place the main stages of making in a systematic order; <p>Practical skills and techniques</p> <ul style="list-style-type: none"> d learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures; e use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components; f with growing independence, measure and mark out to the nearest cm and millimetre; g cut, shape and score materials with some degree of accuracy; h assemble, join and combine material and components with some degree of accuracy; i demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; j join textiles with an appropriate sewing technique; k begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics. 	<p>KS2 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.</p> <p>Children 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>They 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>Children can:</p> <p>Planning</p> <ul style="list-style-type: none"> a independently plan by suggesting what to do next; b with growing confidence, select from a wide range of tools and equipment, explaining their choices; c select from a range of materials and components according to their functional properties and aesthetic qualities; d create step-by-step plans as a guide to making; <p>Practical skills and techniques</p> <ul style="list-style-type: none"> e learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures; f independently take exact measurements and mark out, to within 1 millimetre; g use a full range of materials and components, including construction materials and kits, textiles, and mechanical components; h cut a range of materials with precision and accuracy; i shape and score materials with precision and accuracy; j assemble, join and combine materials and components with accuracy; k demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; l join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; m refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.
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Evaluate	<p>KS1 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.</p> <p>Children explore and evaluate a range of existing products.</p> <p>They evaluate their ideas and products against design criteria.</p> <p>Children can:</p> <ul style="list-style-type: none"> a explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; b explain positives and things to improve for existing products; c explore what materials products are made from; d talk about their design ideas and what they are making; e as they work, start to identify strengths and possible changes they might make to refine their existing design; f evaluate their products and ideas against their simple design criteria; g start to understand that the iterative process sometimes involves repeating different stages of the process. 	<p>KS2 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.</p> <p>Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped shape the world.</p> <p>Children can:</p> <ul style="list-style-type: none"> a explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; b explore what materials/ingredients products are made from and suggest reasons for this; c consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product; d evaluate their product against their original design criteria; e evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world. 	<p>KS2 Design and Technology National Curriculum</p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.</p> <p>Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped shape the world.</p> <p>Children can:</p> <ul style="list-style-type: none"> a complete detailed competitor analysis of other products on the market; b critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make; c evaluate their ideas and products against the original design criteria, making changes as needed.
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KS1 Design and Technology National Curriculum

Children build structures, exploring how they can be made stronger, stiffer and more stable.

They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Children can:

- a build simple structures, exploring how they can be made stronger, stiffer and more stable;
- b talk about and start to understand the simple working characteristics of materials and components;
- c explore and create products using mechanisms, such as levers, sliders and wheels.

KS2 Design and Technology National Curriculum

Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].

They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].

They apply their understanding of computing to program, monitor and control their products.

Children can:

- a understand that materials have both functional properties and aesthetic qualities;
- b apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;
- c understand and demonstrate how mechanical and electrical systems have an input and output process;
- d make and represent simple electrical circuits, such as a series and parallel, and components to create functional products;
- e explain how mechanical systems such as levers and linkages create movement;
- f use mechanical systems in their products.

KS2 Design and Technology National Curriculum

Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].

They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].

They apply their understanding of computing to program, monitor and control their products.

Children can:

- a apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;
- b understand and demonstrate that mechanical and electrical systems have an input, process and output;
- c explain how mechanical systems, such as cams, create movement and use mechanical systems in their products;
- d apply their understanding of computing to program, monitor and control a product.

KS1 Design and Technology National Curriculum

Children use the basic principles of a healthy and varied diet to prepare dishes.

They understand where food comes from.

Children can:

- a explain where in the world different foods originate from;
- b understand that all food comes from plants or animals;
- c understand that food has to be farmed, grown elsewhere (e.g. home) or caught;
- d name and sort foods into the five groups in the Eatwell Guide;
- e understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why;
- f use what they know about the Eatwell Guide to design and prepare dishes.

KS2 Design and Technology National Curriculum

Children understand and apply the principles of a healthy and varied diet.

They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Children can:

- a start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world;
- b understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically;
- c with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven;
- d use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking;
- e explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes;
- f understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body;
- g prepare ingredients using appropriate cooking utensils;
- h measure and weigh ingredients to the nearest gram and millilitre;
- i start to independently follow a recipe;
- j start to understand seasonality.

KS2 Design and Technology National Curriculum

Children understand and apply the principles of a healthy and varied diet.

They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Children can:

- a know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world;
- b understand about seasonality, how this may affect the food availability and plan recipes according to seasonality;
- c understand that food is processed into ingredients that can be eaten or used in cooking;
- d demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source;
- e demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling;
- f explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes;
- g adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma;
- h alter methods, cooking times and/or temperatures;
- i measure accurately and calculate ratios of ingredients to scale up or down from a recipe;
- j independently follow a recipe.

Overview - Bolton Long Term Planning – Art and Design & Technology - 2024 to 2026

	Autumn		Spring		Summer	
A	D&T	ART	D&T	ART	D&T	ART
Y1/2	Making a Moving Book <i>(Mechanisms - Sliders & Levers)</i>	Explore and Draw <i>(Drawing and Sketchbooks)</i>	Sensational Salads <i>(Cooking)</i>	Expressive Painting <i>(Paint, Surface, Texture)</i>	Pull along toy <i>(Wheels and Axles)</i>	Making Birds <i>(Working in 3 Dimensions)</i>
Y3/4	A Sustainable Gift <i>(Structures)</i>	Gestural Drawing with Charcoal <i>(Drawing and Sketchbooks)</i>	Biscuits <i>(Cooking)</i>	Cloth, Thread, Paint <i>(Paint, Surface, Texture)</i>	Torches <i>(Electrical Systems)</i>	Telling Stories Through Making <i>(Working in 3 Dimensions)</i>
Y5/6	Bridges <i>(Structures)</i>	Typography and Maps <i>(Drawing and Sketchbooks)</i>	Automata - Moving Toys <i>(Cams)</i>	Making Monotypes <i>(Print, Colour, Collage)</i>	Seasonal Food <i>(Cooking)</i>	Set Design <i>(Working in 3 Dimensions)</i>
B	ART	D&T	ART	D&T	ART	D&T
Y1/2	Spirals <i>(Drawing and Sketchbooks)</i>	Fabric Bunting <i>(Textiles)</i>	Simple Printmaking <i>(Print, Colour, Collage)</i>	Chairs for Three Bears <i>(Structures - Freestanding)</i>	Music and Art <i>(Collaboration and Community)</i>	Packed Lunch Problems <i>(Cooking)</i>
Y3/4	Storytelling Through Drawing <i>(Drawing and Sketchbooks)</i>	Christmas Stockings <i>(Textiles - 2D shape to 3D Product)</i>	Working with Shape and Colour <i>(Print, Colour, Collage)</i>	Roman Horse Drawn Chariot or The Iron Man Pneumatics <i>(Mechanisms, Structures)</i>	Festival Feasts <i>(Collaboration and Community)</i>	The Great Bread Bake Off! <i>(Cooking)</i>
Y5/6	2D Drawing to 3D Making <i>(Drawing and Sketchbooks)</i>	Phone Case <i>(Textiles - 2D shape to 3D Product)</i>	Exploring Identity <i>(Paint, Surface, Texture)</i>	Fairground Ride <i>(Electrical, Mechanisms, Structures)</i>	Take a Seat <i>(Working in 3 Dimensions)</i>	Tea Party <i>(Cooking)</i>

Design and Technology

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Schools are not required by law to teach the example content in [square brackets].

Subject content

Key stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught 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.

Key stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught 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.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key stage 2

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.