

Curzon D&T Curriculum

Our Intent

Curzon specific aims of D&T

Design and Technology is an area of the curriculum where a child can explore their creativity and learn to innovate. Technological change has been at the heart of human development: it is technology which revolutionised clothing, literacy, cooking, transport and more recently, the impact of technology on our communication has been revolutionary. When children are taught to see the impact of technology on our lives today and throughout history, they can be inspired to take their place within this process and begin to appreciate how their skills can impact on the future of our human society and our planet as a whole.

By giving children the opportunities to creatively research and explore the designed and made world in which we live, we ensure they become aware of how design and function underpins every simple and complex machine around us. Children are given opportunities to explore the properties of different materials and their suitability for differing functions, they are given a design need and asked to find the solution. Through this mixture of teaching and exploration, the children learn to research and learn from the design found around us and to compare ideas and refine their design process. Through the building of design specific skills from reception to Year 6, children at Curzon use their growing substantive and disciplinary knowledge to access and explore the functionality in the world around them.

We have high ambitions for all pupils. Our ethos is to enable all children to reach their potential. We do not place a ceiling on attainment. Through carefully designing our curriculum to include a range of different activities (e.g, group work, use of different materials), we ensure that all pupils, including SEND, can participate fully. Our curriculum is designed to ensure that higher attainers are challenged by developing the ability to self evaluate their work and make their own improvements.

Whilst following the National Curriculum, we have chosen topics according to the following criteria and made our D&T curriculum unique to Curzon:

Topics chosen to provide strong cross curricular links

We emphasise cross-curricular links between D&T and other subjects as we aim that children retain their substantive and disciplinary knowledge by applying it in more than one curriculum area. For example, Year 6 design and create clay tagines linked to their Ancient Bagdad unit. Year 5 design and create an Anglo Saxon replica museum linked to their history unit.

Topics chosen to fit with the school's local environment

Being set in an area of outstanding natural beauty, we draw on our local surroundings throughout the school. Each class has half a term of Forest School aimed at teaching pupils how to care for the environment and how to design and create using natural materials. Forest school also teaches children about controlled risks.

Our D&T curriculum promotes good nutrition

We aim that our children know how to create balanced meals and understand the importance of eating healthily through our cookery programme. This is important in our society where increasingly there are issues with obesity and eating disorders.

Whole school topic on paper

By having the whole school working on the same topic and giving them opportunities to share their learning between classes, we aim to engender motivation across the whole school.

Our D&T curriculum promotes our vision and key values

Kindness and respect: our D&T curriculum teaches all children to give respectful and constructive feedback to others.

Courage: our D&T curriculum encourages children to develop the confidence to try out new techniques and to persevere to improve their work.

All children understand that D&T is a journey and that experimenting and making mistakes is part of the learning process (linked to our vision of growing like the mustard seed).

How this links with our school vision: growing in creativity and imagination. Growing in self confidence as a designer and technician.

Skills that we intend our pupils to achieve

We have identified three key skill strands and have mapped the development of each of these skills throughout the year groups, identifying what children in each year group need to attain in each of the strands by the end of each academic year.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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<p>Developing, planning and communication ideas.</p>	<ul style="list-style-type: none"> • Draw on their own experience to help generate ideas • Suggest ideas and explain what they are going to do • Identify a target groups for what they intend to design and make • Model their ideas in card and paper 	<ul style="list-style-type: none"> • Generate ideas by drawing on their own and other people's experiences • Develop their design ideas through discussion, observation, drawing and modelling • Identify a purpose for what they intend to design and make • Identify simple design criteria • Make simple drawings and label parts 	<ul style="list-style-type: none"> • Generate ideas for an item, considering its purpose and the user/s • Identify a purpose and establish criteria for a successful product • Plan the order of their work before starting • Explore, develop and communicate design proposals by modelling ideas • Make drawings with labels when designing 	<ul style="list-style-type: none"> • Generate ideas, considering the purposes for which they are designing • Make labelled drawings from different views showing specific features • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempts fail • Evaluate products and identify criteria that can be used for their own designs 	<ul style="list-style-type: none"> • Generate ideas through brainstorming and identify a purpose for their product • Draw up a specification for their design • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggestion alternative methods of making if the first attempts fail • Use results of investigations and information sources when planning designs 	<ul style="list-style-type: none"> • Communicate their ideas through detailed labelled drawings • Develop a design specification • Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways • Plan the order of their work choosing appropriate materials, tools and techniques
<p>Working with tools, equipment, materials and components to make quality products (including food)</p>	<ul style="list-style-type: none"> • Make their design using appropriate techniques • With help measure and shape a range of materials • Use tools: scissors and a hole punch safely 	<ul style="list-style-type: none"> • Begin to select tools and materials; use vocab to name and describe them • Measure and cut and with some accuracy • Assembly, join and combine materials 	<ul style="list-style-type: none"> • Select tools and techniques for making their product • Measure, mark out, cut score and assembly component with more accuracy • Work safely and accurately with a range of simple tools 	<ul style="list-style-type: none"> • Select appropriate tools and techniques for making their product • Measure mark out, cut and shape a range of materials using appropriate tools, equipment and techniques 	<ul style="list-style-type: none"> • Select appropriate materials, tools and techniques • Measure and mark out accurately • Use skills in using different tools and equipment safely and accurately 	<ul style="list-style-type: none"> • Select appropriate tools, materials, components and techniques • Use tools safely and accurately • Construct products using permanent joining techniques

	<ul style="list-style-type: none"> • Select and use appropriate fruit and veg processes and tools • Use basic food handling hygienic practices and personal hygiene 	<p>in order to make a product</p> <ul style="list-style-type: none"> • Follow safe procedures for food safety and hygiene 	<ul style="list-style-type: none"> • Think about their ideas as they make progress and be willing to change things if this helps them improve their work • Demonstrate hygienic food preparation and storage 	<ul style="list-style-type: none"> • Join and combine materials and components accurately in temporary and permanent ways • Use simple graphical communication techniques 	<ul style="list-style-type: none"> • Weigh and measure accurately • Apply the rules for basic food hygiene and other safe practices • Cut and join with accuracy to ensure a good quality finish to the product 	<ul style="list-style-type: none"> • Make modifications as they go along
Evaluating processes and products	<i>Evaluate their product by discussing how well it works in relation to the original purpose.</i>	<i>Evaluate their product by discussing how well it works in relation to the original purpose.</i>	Evaluate their product against original design criteria – how well it meets its intended purpose Disassembly and evaluate familiar products	Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests	Evaluate a product against the original design specification Evaluate it personally ad seek evaluation from others	Evaluate their products, identifying strengths and areas for development and carrying out appropriate tests Record their evaluations using drawings with labels Evaluate against their original criteria and suggest ways their product could be improved

Our Implementation

Organisation of topics

Each class has half a term of cookery and half a term of Forest School each year. Food technology is implemented across the school with children developing an understanding of where food comes from, the importance of a varied and healthy diet and how to prepare food and cook safely. As children go through the school, they are given more independence and choices of ingredients and learn to use a wider range of tools safely. Forest school sessions focus on caring for the environment, working with natural materials and working with others. As children go through the school, they use a wider range of tools and are given the opportunity to take more (controlled) risks. Curzon has a qualified Forest School leader and qualified cookery leader.

One stand alone D&T project is taught in each year group linked to another subject: Year 6 create a tagine from clay – linked to their study of Ancient Bagdad, Year 5 create a bridge – linked to their study of London, Year 4 create a Roman Road – linked to their study of Romans, Year 3 create a rainforest diorama – linked with their study of the rain forest, KS1 create a waterproof shelter linked to their study of weather. As part of their unit on London and Tower Bridge, Year 5 visit the local secondary school and learn about pulleys and levers. Then then create their own moving bridges.

As well as the stand alone project, DT is also interwoven into our humanities curriculum as we acknowledge the impact that technology has had upon our home life, leisure and the culture of our nation and the wider world. Year 3 learn about Stone Age technologies through their visit to COAM and reinforce this through their Forest School lessons (e.g. through making fires). As part of their Anglo-Saxon topic, Year 5 learn about the impact of the written word and the technological processes involved in creating an early medieval book. Year 5 also create replica artefacts (based on archaeological finds) using D&T skills and present them as a class museum to their parents. In Geography, Year 3 research the four different zones of the rainforest canopy and reinforce this learning through the creation of a rainforest diorama. Year 6 design a Fair Trade cereal bar and its packaging which shows how the money from fair trade goes directly to support the farmers and creates cross curricular links with Maths. KS1 make shelters as part of their unit on houses.

In addition to the above, we also include a Whole School Paper Week each year, which draws together D&T, History and Geography foci. Each year group has a specific D&T project directly linked to the creation of paper or writing technology. The overall aim (which is taught more widely outside the context of this week) is for children to develop understanding of how humans, throughout history, have used the materials and technology available to them to communicate through the written word. The week begins with a launch assemblies which are followed up by individual D&T tasks and taught input in each year group.

The impact of the printing press is taught in Year 6 where their D&T task during project week is to create a printed message using different materials. Year 3 make papyrus and are taught during their Ancient Egypt topic unit how easily accessible this natural material was around the river Nile. Year 4 (as part of their Romans topic) are taught that the papyrus market was one of the reasons why the Romans wanted to invade Egypt. Year 5, during their Ancient Greece topic, are taught how the ready availability of papyrus enabled public libraries to be built, however, by the time of the Anglo-Saxons, 'paper' making was very labour intensive. Year 5 reflect upon and contrast the impact of literacy (or lack of it) on these two different societies in these two historical eras.

How we teach D&T

In EYFS children have discrete DT& sessions each week and forest school and cookery sessions for half a term. D&T is included in continuous provision. For example, constructing homes and obstacle course using large equipment.

Within each unit, skills are built up in carefully sequenced lessons. Many D&T units start with children evaluating and disassembling objects. They plan their own designs to a specific brief, make them and then evaluate them. Lessons start and end with a recap of prior learning. Throughout the school, children are given the opportunity to record their designs and evaluations. In some units, children are given a chance to refine or have another go at their product after they have done an initial evaluation, developing their resilience. Children are taught how to support each other and make constructive and respectful comments. They are encouraged to take pride in their work through resilience when learning new skills and techniques.

Progression of knowledge and skills in D&T

Skills and substantive knowledge (objects, designers, mechanisms, recipes, safety instructions) for each year group are carefully mapped out to ensure progression throughout the school.

Curzon Long Term Curriculum Planning for DT

EYFS DT is taught mainly through continuous provision covering the following key skills and following the same broad units at KS1:

Creating with Materials ELG- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function; Share their creations, explaining the process they have used;

Our EYFS DT curriculum also provides rich opportunities for children to develop skills in other areas e.g. gross and fine motor skills; the natural world, people and communities; listening and attention; speaking; self-regulation - working with others and show awareness of their feelings; managing self (confidence, self-resilience and perseverance).

DT in KS1 is taught over a 2 year rolling programme. The units are carefully mapped out so that each year children have a wide range of experiences.

KS1 YEAR A

Autumn	Spring	Summer	Skills KS1
<p>Great Fire of London-focus on different materials used to make homes. (History)</p>	<p>Forest School (emphasis on team work, creating sculptures and shelters)</p> <p>Cookery (trying and creating range of nutritional meals)</p> <p>Making paper</p> <p>Mini shelter (Science)</p>	<p>Playground (Art) Designing and creating playground equipment.</p>	<p>EYFS Develop own ideas and select appropriate materials to do so independently. Talk about what they are going to do and why. Return and review previous learning building up from initial ideas.</p> <p>YEAR 1 Developing, planning and communication ideas Draw on their own experience to help generate ideas Suggest ideas and explain what they are going to do Identify a target groups for what they intend to design and make</p> <p>Working with tools, equipment, materials and components to make quality products (including food) Make their design using appropriate techniques With help measure and shape a range of materials Use tools: scissors and a hole punch safely</p>

			<p>Select and use appropriate fruit and veg processes and tools Use basic food handling hygienic practices and personal hygiene</p> <p>Evaluating processes and products Evaluate their product by discussing how well it works in relation to the original purpose.</p> <p>YEAR 2</p> <p>Developing, planning and communication ideas Generate ideas by drawing on their own and other people’s experiences Develop their design ideas through discussion, observation, drawing and modelling Identify a purpose for what they intend to design and make Identify simple design criteria Make simple drawings and label parts</p> <p>Working with tools, equipment, materials and components to make quality products (including food) Begin to select tools and materials; use vocab to name and describe them Measure and cut and with some accuracy Assembly, join and combine materials in order to make a product</p>
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			<p>Follow safe procedures for food safety and hygiene</p> <p>Evaluating processes and products Evaluate their product by discussing how well it works in relation to the original purpose.</p>
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KS1 YEAR B

Autumn	Spring	Summer	Skills KS1
	<p>Forest School (emphasis on team work, creating sculptures and shelters)</p> <p>Cookery (trying and creating range of nutritional meals)</p> <p>Making paper</p> <p>Umbrella (Science)</p>	<p>Puppets (Art)</p> <p>Homes-focus on how cooking evolved within the different homes from the past: cooking over open fire, cooking range, gas/electric cookers, microwaves</p> <p>(History)</p>	<p>EYFS Develop own ideas and select appropriate materials to do so independently. Talk about what they are going to do and why. Return and review previous learning building up from initial ideas.</p> <p>YEAR 1 Developing, planning and communication ideas Draw on their own experience to help generate ideas Suggest ideas and explain what they are going to do Identify a target groups for what they intend to design and make</p>

			<p>Working with tools, equipment, materials and components to make quality products (including food) Make their design using appropriate techniques With help measure and shape a range of materials Use tools: scissors and a hole punch safely Select and use appropriate fruit and veg processes and tools Use basic food handling hygienic practices and personal hygiene</p> <p>Evaluating processes and products Evaluate their product by discussing how well it works in relation to the original purpose.</p> <p>YEAR 2 Developing, planning and communication ideas Generate ideas by drawing on their own and other people's experiences Develop their design ideas through discussion, observation, drawing and modelling Identify a purpose for what they intend to design and make Identify simple design criteria Make simple drawings and label parts</p>
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			<p>Working with tools, equipment, materials and components to make quality products (including food) Begin to select tools and materials; use vocab to name and describe them Measure and cut and with some accuracy Assembly, join and combine materials in order to make a product Follow safe procedures for food safety and hygiene</p> <p>Evaluating processes and products Evaluate their product by discussing how well it works in relation to the original purpose.</p>
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YEAR 3

Autumn	Spring	Summer	Skills
<p>Forest School (builds on KS1 to include more use of tools)</p> <p>Cookery (builds on KS1 to include more use of equipment and skills e.g. measuring and chopping)</p> <p>Trip to Chiltern Open Air Museum- stone age fires and shelter (History)</p>	<p>Creating rainforest dioramas with moving parts (Art and History)</p> <p>Purpose: create a diorama to teach a KS1 child about the rainforest -investigating flaps and levers -investigating ways of making items 3D and fixing them to the box</p> <p>Making papyrus</p>		<p>Developing, planning and communication ideas Generate ideas for an item, considering its purpose and the user/s Identify a purpose and establish criteria for a successful product Plan the order of their work before starting Explore, develop and communicate design proposals by modelling ideas</p>

	<p>Purpose: write a hieroglyphics message on created papyrus</p> <ul style="list-style-type: none"> -investigating ways of joining strips -investigating smoothing techniques <p>understand how key events and individuals in design and technology have helped shape the world</p>		<p>Make drawings with labels when designing</p> <p>Working with tools, equipment, materials and components to make quality products (including food)</p> <p>Select tools and techniques for making their product</p> <p>Measure, mark out, cut score and assembly component with more accuracy</p> <p>Work safely and accurately with a range of simple tools</p> <p>Think about their ideas as they make progress and be willing to change things if this helps them improve their work</p> <p>Demonstrate hygienic food preparation and storage</p> <p>Evaluating processes and products</p> <p>Evaluate their product against original design criteria – how well it meets its intended purpose</p>
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YEAR 4

Autumn	Spring	Summer	Skills
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<p>Forest School (builds on KS1 to include more use of tools)</p> <p>Cookery (builds on KS1 to include more use of equipment and skills e.g. measuring and chopping)</p> <p>Roman roads (History)</p>	<p>Making recycled paper Purpose: create recycled paper that is usable</p> <ul style="list-style-type: none"> -investigating with different sizes of strips and types of paper -investigating with time for soaking the strips -investigating ways of drying the paper <p>understand how key events and individuals in design and technology have helped shape the world</p>	<p>Journey of a river model (Geography)</p>	<p>Developing, planning and communication ideas Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempts fail</p> <p>Working with tools, equipment, materials and components to make quality products (including food) Select appropriate tools and techniques for making their product Measure mark out, cut and shape a range of materials using appropriate tools, equipment and techniques Join and combine materials and components accurately</p> <p>Evaluating processes and products Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests</p>
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YEAR 5

Autumn	Spring	Summer	Skills
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<p>Anglo Saxon artefacts and museum (History)</p>	<p>Paper making-book cover understand how key events and individuals in design and technology have helped shape the world Purpose: To create an illuminated letter and To create a book cover for this letter (front and back cover – joined together).</p> <p>Greek vases (Art)</p>	<p>Forest school (builds on lower key stage 2 with greater use of tools, skills such as whittling, creating fires)</p> <p>Cookery (builds on lower key stage 2 with greater independence and wider range skills e.g. whisking, folding)</p> <p>Making bridges (Geography) Visit to local secondary school strengthen, stiffen and reinforce understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Designing using Sketch up (Computing)</p>	<p>Developing, planning and communication ideas Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggestion alternative methods of making if the first attempts fail Use results of investigations and information sources when planning designs</p> <p>Working with tools, equipment, materials and components to make quality products (including food) Select appropriate materials, tools and techniques Measure and mark out accurately Use skills in using different tools and equipment safely and accurately Weigh and measure accurately Apply the rules for basic food hygiene and other safe practices Cut and join with accuracy to ensure a good quality finish to the product</p> <p>Evaluating processes and products Evaluate a product against the original design specification</p>
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			Evaluate it personally and seek evaluation from others
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YEAR 6

Autumn	Spring	Summer	Skills
<p>Creating light up Christmas decorations (Science) understand and use electrical systems in their products</p>	<p>Printing understand how key events and individuals in design and technology have helped shape the world-Gutenberg press</p> <p>Purpose: create a printed message with uniform letters</p> <ul style="list-style-type: none"> -choosing how to create printing blocks -investigating how to create letters that are uniform in size -investigating how much in/type of ink to use <p>Fair trade bars (Geography)</p>	<p>Forest school (builds on lower key stage 2 with greater use of tools, skills such as whittling, creating fires)</p> <p>Cookery (builds on lower key stage 2 with greater independence and wider range skills e.g. whisking, folding)</p> <p>Clay tagines (History)</p> <p>Designing Ancient Bagdad towns using ICT (History)</p>	<p>Developing, planning and communication ideas Communicate their ideas through detailed labelled drawings Develop a design specification Plan the order of their work choosing appropriate materials, tools and techniques</p> <p>Working with tools, equipment, materials and components to make quality products (including food) Select appropriate tools, materials, components and techniques Use tools safely and accurately Construct products using permanent joining techniques Make modifications as they go along</p> <p>Evaluating processes and products Evaluate their products, identifying strengths and areas for development and carrying out appropriate tests</p>

			Record their evaluations using drawings with labels Evaluate against their original criteria and suggest ways their product could be improved
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Assessment

Assessment of children's learning in Design Technology is an ongoing monitoring of children's understanding, knowledge and skills by the class teacher throughout lessons. This assessment is then used to inform differentiation, support and challenge for each child. Summative assessment based on our skills overview is conducted termly by class teachers across each year group to inform the subject leader of standards. D&T is also monitored by the subject leader throughout the year in the form of sketch book monitoring, looking at outcomes and holding pupil interviews to discuss their learning and understanding and establish the impact of the teaching taking place. The D&T subject leader meets with the curriculum committee annually to discuss their actions.

Impact

The structure of the D&T curriculum ensures that children are able to develop their skills and knowledge. Children learn to understand and apply the key principles of D&T: designing, making and evaluating. Skills are built up progressively in each area so that by the end of KS2 our pupils are able to plan in detail choosing the order of work, materials, tools and techniques. They develop accuracy when working with materials and are able to evaluate their products against the specification and make improvements. D&T is taught in a supportive and constructive way enabling our children to try out new skills, take controlled risks and grow in the Curzon value of courage.

Completed products are often shared with parents who are invited in to view completed projects. This helps our pupils develop a sense of pride. The D&T curriculum at Curzon contributes to children's personal development in creativity, independence, judgement, risk taking and self-reflection.