



Design and Technology Curriculum Intent

At the Flourish Federation, our Design and Technology curriculum intends to be an inspiring, rigorous and practical subject, supporting children to use their creativity and imagination. We aim to give children the skills to solve real and relevant problems found in the world around them, considering their own and others' needs, wants and values, articulating their findings and ideas with progressive vocabulary.

Design and Technology is planned to be taught in a carefully sequenced progression, drawing on skills and techniques which they have been exposed to such as mathematics, science, engineering, computing and art. The curriculum is designed to encourage children to take risks and problem solve, using the resources they feel meet a project's needs in order to become resourceful, innovative, enterprising and capable citizens. This is to prepare children to deal with the rapidly changing world in which they will grow up.

We aspire to provide opportunities for children to work both independently and as part of a team, in order to critically evaluate and understand the impact design and technology has on the wide world and the essential contribution Design and Technology has on creativity, culture, wealth and well-being of the local and global community.

We aim to ensure inclusion across the subject, allowing all children to celebrate, contribute and be an advocate for their own unique skill-sets, contributing equally.



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Implementation

Aim 1 – Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Creative	To talk about their ideas for construction projects and investigation during play.	To talk about possible ways of completing daily tasks and play activities using design and technology to assist.	To suggest and decide on the best way to complete daily tasks using design and technology to assist.	To think about their ideas as they make progress and be willing to change things if this helps them to improve their work. With growing confidence generate ideas for an item, considering its purpose and the user/s. To start to understand whether products can be recycled or reused. To identify a purpose and establish criteria for a successful product.	To Identify the strengths and areas for development in their ideas and products. To generate ideas, considering the purposes for which they are designing- link with Mathematics and Science. To explain their choice of materials and components according to function and aesthetic. To understand how to reinforce and strengthen a 3D framework.	Understand how mechanical systems such as cams or pulleys or gears create movement. Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.	Know how to reinforce and strengthen a 3D framework. Make decisions and select the most appropriate mechanical system for a particular purpose
Technical & Practical	To use key vocabulary to explain what they are doing. To start using adhesives to join materials. To physically explore construction tasks, problem solving along the way to improve. To explore simple hinges (paper/card), wheels and axles.	To begin to use appropriate language and resources (by name) to complete daily tasks. To physically collect resources needed for a task and carry this out. To select appropriate resources and tools for their building projects. To explore and use mechanisms (levers,	To choose appropriate language and resources (by name) to complete daily tasks. To collect resources needed, making changes as they go to support their daily task. To begin to select tools and materials; use correct vocabulary to name and describe them.	To select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components and electrical components. To explain their choice of tools and equipment in relation to the skills and techniques they will be using.	To select a wider range of tools and techniques for making their product safely. To know how to measure, mark out, cut and shape a range of materials, using appropriate tools and equipment. To understand how electrical circuits and components can be	Understand that mechanical and electrical systems have an input, process and output. Begin to measure and mark out more accurately. Demonstrate how to use skills in using different tools and equipment safely and accurately.	Use tools safely and accurately. Construct products using permanent joining techniques. Use a craft knife, cutting mat and safety ruler with close supervision (one to one)



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	To begin to use scissors to cut straight and curved edges. To begin exploring hole making tools. To explore using/ holding basic tools such as a saw/ hammer.	sliders, wheels and axles) in projects.	To learn to use hand tools safely and appropriately. To start to choose and use appropriate finishing techniques based on their own ideas. To select the best tools and materials. To measure materials to use in a project.	To start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement. To make choices of material both for its appearance and qualities To select the most appropriate tools and techniques to use for a given task To find alternative ways of fixing something if the first attempt is not successful	used to create functional products. To learn how to program a computer to monitor changes in the environment and control their products. To demonstrate how to measure, tape or pin, cut and join fabric with some accuracy.	Weigh and measure accurately (time, dry ingredients, and liquids). Use a glue gun with close supervision. Incorporate switches to turn on and off into models made.	
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Aim 2 – 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.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	To explain what they are making and which materials they are using. To select materials from a limited range that will meet a simple design criteria (i.e. Shiny) To select and name the tools needed to work with chosen materials (scissors). To describe simple drawings of their own ideas. To begin to use technical vocabulary when appropriate to explain their design as it progresses.	To begin to draw on own experiences to help generate ideas and research conducted on criteria. To begin to think about how existing products have been developed - what are they for? How do they work? What materials have been used? To start to suggest ideas and explain what they are going to do using appropriate vocabulary. To understand how to identify a target group for an intended design and criteria. To begin to develop their ideas through talk and simple drawing. To make simple design drawings to plan their projects. To communicate with others about how they want to construct their product. To explain how they intend to fix simple materials if they break.	Start to generate ideas by drawing on their own and other people's experiences. Begin to develop their design ideas through discussion, observation, drawing and modelling. Identify a purpose for what they intend to design and make. Understand how to identify a target group of people to help inform what they intend to design and make based on a design criteria. To develop their ideas through discussion and drawing designs, diagrams and labelling parts. To make templates and drafts of their ideas in card and paper or using ICT (is relevant) To explain why they have used a certain material. To develop their own ideas from given starting points.	To start to order the main stages of making a product. To understand how well products have been designed, made, what materials have been used and the construction technique. To know how to make drawings with labels when designing. To put together a step-by-step plan which shows the order and also what equipment and tools they need	To confidently make labelled drawings from different views showing specific features. To 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. To produce a plan and explain it to others considering how to present their product in an interesting way.	Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and CAD (Computer Aided Design). Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Draw up a specification for their design- link with Mathematics and Science. Use results of investigations, information sources, including ICT when developing design ideas. Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Plan the order of their work, choosing appropriate materials, tools and techniques. Suggest alternative methods of making if the first attempts fail. Identify the strengths and areas for development in their ideas and products. Use market research to inform plans Follow and refine their initial plan if necessary convincingly justify their plan to someone else. Explain and justify how their product should be stored. Suggest ideas about how their product could be sold Work within a given budget



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						Produce a range of ideas after collecting information Produce a detailed step-by-step plan Suggest some alternative plans and say what the good points and drawbacks are about each Explain how their product will appeal to the audience	
Make	To begin to create their design with simple techniques. To start to build structures, joining components together.	To begin to make their design using appropriate techniques. To begin to build structures, exploring how they can be made stronger, stiffer and more stable. To begin to assemble, join and combine materials and components together using a variety of temporary methods. To help measure, mark, cut and shape a range of materials, using tools where needed. To begin to use simple finishing techniques to improve the appearance of their product (painting).	To build structure, exploring how they can be made stronger, stiffer and more stable. To help measure, cut and score with some accuracy. To start to assemble, join and combine materials in order to make a product (i.e. a pop up card). To demonstrate how to cut, shape and join fabrics to make simple products. To use basic sewing techniques. To join fabric using a running stitch, glue and tape. To be able to join materials/ components together in different ways.	To use equipment safely. To make choices of material both for its appearance and qualities To work accurately to make cuts and holes – e.g. to measure and then use equipment to cut. To join fabrics using a running stitch.	To start to join and combine materials and components accurately in temporary and permanent ways. To sew using a different range of stitches to weave and knit. To begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT. To persevere with their product even though their original idea might not have worked. To build a model which incorporates a motor To create a complex pop up (e.g. card)	With growing confidence select appropriate materials, tools and techniques e.g. 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. With growing confidence cut and join with accuracy to ensure a good-quality finish to the product. Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.	Accurately apply a range of finishing techniques, including those from art and design. Confidently select appropriate tools, materials, components and techniques and use them. Assemble components to make working models. With confidence, pin, sew and stitch materials together to make a product. Combine fabric to make a high quality product for a purpose



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		To make a product which moves. To attempt to make their models/ projects stronger if it needs to be.	To attach features to a project (i.e. wheels and axel onto a vehicle)			Use a range of tools and equipment to expertly make up a prototype first Create a 3D product using a range of materials and sewing techniques	
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Aim 3 – Critique, evaluate and test their ideas and products and the work of others.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Critique							
Test and Evaluate	Say what they like and do not like about items they have made. Begin to talk about their designs as they develop and identify positives and negatives. Start to talk about changes made during the making process. Discuss how closely their finished products meet their design criteria.	Start to evaluate their product by discussing how well it works in relation to the purpose (design criteria) When looking at existing products explain what they like and dislike about the products and why. Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make next time.	With confidence talk about their ideas and how they may apply them. Start to evaluate their products as they are being developed. Identify what went well and possible changes they might make next time.	Start to evaluate if their product meets its intended purpose. Begin to disassemble and evaluate familiar products and consider the views of others to improve them. Suggest some improvements and say what was good and not so good about their original design. Begin to evaluate how the key designs of individuals in design and technology have helped shape the world.	Suggest some improvements and say what was good and not so good about their original design. Begin to disassemble and evaluate familiar products and consider the views of others to improve them. .	Start to evaluate a product against the original design specification and by carrying out tests. Evaluate their work both during and at the end of the assignment. Begin to seek evaluation from others. Evaluate how the key designs of individuals in design and technology have helped shape the world. Evaluate appearance and function against original criteria	Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests. Evaluate their work both during and at the end of the assignment. Record their evaluations using drawings with labels. Evaluate against their original criteria and suggest ways that their product could be improved. Evaluate if their product meets all design criteria. Justify why they selected specific materials. Test and evaluate their final product.



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Aim 4 - Understand and apply the principles of nutrition and learn how to cook.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Nutrition	To explore familiar food products e.g. fruit and vegetables. To start to think about the need for a variety of foods in diet.	To begin to understand that all food comes from plants or animals. To start to understand how to name and sort foods into the 5 groups. To know that everyone should eat at least five portions of fruit and vegetables every day	To understand all food comes from plants or animals. To begin to understand where different foods come from (farmed in UK, caught, native to different countries). To understand how to name and sort foods into 5 groups. Recognise the need for a variety of food in a diet.	Start to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Know how a healthy diet is made up from a variety and balance of different food and drink. Begin to know that to be active and healthy, food and drink are needed to provide energy for the body (and begin to distinguish healthy high energy foods). Be able to identify foods which come from the UK and other countries in the world.	Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Explain why a healthy diet is important. Know that to be active and healthy, food and drink are needed to provide energy for the body and identify healthy high energy foods). Understand what to do to be hygienic and safe.	Begin to understand that seasons may affect the food available. Know how to prepare and cook a variety of predominantly savoury dishes including the use of a heat source. Evaluate a meal and consider if they contribute towards a balanced diet. Begin to understand that different food and drink contain different substances (nutrients, water and fibre) that are needed for health. Explain what times of year particular foods are eaten in.	Explain how ingredients were grown, reared and caught. Understand that seasons may affect the food available. Know that different food and drinks contain different substances (nutrients, water and fibre) that are needed for health. Plan a healthy and affordable diet
Cook	To begin to develop a good vocabulary using taste, smell, texture and feel. To stir, spread, knead and shape a range of foods and ingredients. To begin to work safely and hygienically. To experiment with food weight and measure using non-standard	To know how to prepare simple dishes safely and hygienically, without using a heat source. To know how to use techniques such as cutting, peeling and grating. To measure and weigh food items using non-standard measures (e.g. spoons and cups)	To demonstrate how to prepare simple dishes safely and hygienically, without using a heat source. To demonstrate how to use techniques such as cutting, peeling and grating. To make dishes from other countries.	Understand how to prepare and cook a variety of dishes including experience of using a heat source. Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	Understand how to prepare and cook a variety of predominantly savoury dishes including experience of using a heat source. Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	Understand how food is processed into ingredients that can be eaten or used in cooking. Know how to prepare and cook a variety of predominantly savoury dishes including the use of a heat source. Demonstrate increasing confidence in how to use a range of techniques such as	Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including the use of a heat source. Explain how food is processed into ingredients that can be eaten or used in cooking. Understand how to use a range of techniques



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	units (jugs, cups and bowls).				Measure and weigh ingredients appropriately. Become familiar with some of the processes that foods go through to preserve them/make them more appealing.	peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Describe what to do to be hygienic and safe. Use appropriate tools and equipment, weighing and measuring with scales.	such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Use appropriate tools and equipment, weighing and measuring with scales.
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