Design & Technology- Whole School Overview

In D&T we build upon the learning in KS1 and by the end of year 6 we aim for all pupils to have studied a broad and progressive curriculum. We focus on analysing, designing, making & evaluating a range of real life products in order to solve problems for a varied audience. The process enables pupils to think creatively and draw upon knowledge from subjects such as science, mathematics, computing and art. Pupils are taught about the impact of design on everyday life and the contribution it makes to the wealth and culture of our nation. We focus on a range of key concepts, skills, knowledge & vocabulary, which ensures pupils have the necessary understanding to embrace the KS3 curriculum.

Each year group will to establish how each unit of work fits with a context for example, the home, school, leisure, culture, enterprise, industry and the wider environment.

Year 3			
	Autumn	**Spring**	**Summer**
Context	leisure	culture	industry
Design			• use research to inform the design of innovative, functional, appealing products that are fit for purpose • generate and communicate their ideas through discussion, annotated sketches, exploding diagrams and computer-aided design
Make	• select from and use a range of tools and equipment to perform practical tasks [for example, cutting material with scissors and joining material with running stitch and other simple stiches], with some accurately • select from and use a range of **textile materials** and components[for example felt, buttons], according to their functional properties and aesthetic qualities	• select from and use a range of tools and equipment to perform practical tasks [for example spread using a butter knife, cutting using a paring knife, mixing ingredients, peeling and grating], with some accurately • select from and use a range of **ingredients** and components, according to their functional properties and aesthetic qualities	• select from and use a range of tools and equipment to perform practical tasks [for example, cutting using a saw and a bench hook, join using card and glue], with some accurately • select from and use a range of con**struction materials** and components, according to their functional properties and aesthetic qualities
Evaluate	• investigate and analyse a range of existing products • evaluate their ideas and products against a simple design criteria and consider the views of others to improve their work		

Technical knowledge			• apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products [**gears and pulleys**]
Cooking & nutrition		• 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 • know where and how a variety of ingredients are grown.	•

Year 4			
	Autumn	**Spring**	**Summer**
Context	Home	Industry	Enterprise
Design		• use research and develop simple design criteria to inform the design of innovative, functional, appealing products that are fit for purpose • generate and communicate their ideas through discussion, annotated sketches	• use research and develop simple design criteria to inform the design of innovative, functional, appealing products that are fit for purpose • generate and communicate their ideas through discussion, annotated sketches
Make	• select from and use a range of tools and equipment to perform practical tasks [for example, gaining confidence in the skills of peeling, chopping, slicing, grating and mixing], with some accurately • select from and use a range of **ingredients** and components, according to their functional properties and aesthetic qualities	• select from and use a range of tools and equipment to perform practical tasks [for example, cutting using a craft knife, join using a glue gun], with some accurately • select from and use a range of **construction materials** [for example TechCard] and components, according to their functional properties and aesthetic qualities	• select from and use a range of tools and equipment to perform practical tasks [for example, cutting material with scissors and joining material with running stitch, cross stitch and other simple stiches, they learn how to add further decorations using buttons, beads, sequins etc], with some accurately • select from and use a range of **textile materials** and components, according to their functional properties and aesthetic qualities
Evaluate		• investigate and analyse a range of existing products • evaluate their ideas and products against a simple 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 **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 & nutrition	• prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • begin to understand seasonality, and know where and how a variety of ingredients are grown.		

Year 5			
	Autumn	**Spring**	**Summer**
Context	• leisure	• industry	• home
Design	• generate, develop, model and communicate their ideas through cross-sectional, pattern pieces and computer-aided 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	• 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
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 **construction materials**, according to their functional properties and aesthetic qualities	• select from and use a wider range of tools and equipment to perform practical tasks [for example, mixing, kneading and baking], accurately • select from and use a wider range of **ingredients**, according to their functional properties and aesthetic qualities	• select from and use a wider range of tools and equipment to perform practical tasks [Children are now able to show an awareness of seam allowance, and learn how to use blanket stitch or overstitch as well as skills previously taught such as attaching beads, buttons and develop some embroidery stitches], accurately • select from and use a wider range of **textiles**, 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	• investigate and analyse a range of existing products
Technical knowledge	• apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products [cams]		
Cooking & nutrition		• prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • know where and how a variety of ingredients are grown, reared, caught and begin to understand how they are processed.	

Year 6			
	Autumn	**Spring**	**Summer**
Context	leisure	culture	industry
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 prototypes and pattern pieces	• 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	• 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 cross-sectional and exploded diagrams
Make	• select from and use a wider range of tools and equipment to perform practical tasks [For example children can now pin and tack fabric pieces together. They can join fabrics together by over sewing, back stich, blanket stitch], accurately • select from and use a wider range of **textiles**, according to their functional properties and aesthetic qualities	• select from and use a wider range of tools and equipment to perform practical tasks [for example becoming increasingly skilled at peeling, chopping, mixing, kneading and baking], accurately • select from and use a wider range of **ingredients**, according to their functional properties and aesthetic qualities	• 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 **construction materials**, 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	• 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	• 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 computing to program, monitor and control their products (through computing)		• apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products [levers and linkages]
Cooking & nutrition		• 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.	