

Design Technology Overview
Key Knowledge, Skills and Vocabulary

Year B

What makes Tywardreath Curriculum unique? A clear focus on developing skills for life, promoting a respect for our environment, celebrating responsible citizens and providing opportunities to debate and reflect.

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Autumn 1	Explorers Through Time	Who Are You Going To Call?	A Child's War
		Textiles	Textiles
National Curriculum Objectives		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> -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 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> -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 -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, textiles according to their functional properties and aesthetic qualities
Key Knowledge		<ul style="list-style-type: none"> -Know how to use a template -Know how to join pieces of fabric to create a 3D shape -Know how to design and make a cover for i-pad/mobile from a template 	<ul style="list-style-type: none"> -To understand that different styles and techniques can be used to produce an item from materials.
Key Skills		<ul style="list-style-type: none"> -think about user when choosing textiles -think about how to make product strong -begin to devise a template -explain how to join things in a different way -understand that a simple fabric shape can be used to make a 3D textiles project 	<ul style="list-style-type: none"> think about user's wants/needs and aesthetics when choosing textiles -make a prototype -use a range of joining techniques -think carefully about what would improve product -understand that a single 3D textiles project can be made from a combination of fabric shapes.

Sequence of Learning		Can I define and refine a problem and suggest solutions? Can I practise the skills needed for my design? Can I design the product? Can I make my product? Can I test and evaluate the product?	Can I create a design criteria? Can I make a prototype? Can I use a range of joining techniques? Can I explain what would improve my product? Can I understand that a single 3D textiles project? Can be made from a combination of fabric shape?
Key Vocabulary		fabric, names of fabrics, fastening, compartment, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam,	Sew, materials, evaluate, design, compare and contrast, influences, Technique, investigate , replicate

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Autumn 2	Where is Our Kingdom?	Where Can We Go?	Is There Anybody Out There?
	Food		
National Curriculum Objectives	Pupils should be taught to: - 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 select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics -explore and evaluate a range of existing products -evaluate their ideas and products against design criteria.		
Key Knowledge	Name the different food groups and what makes a healthy meal. -Begin to know where our food and ingredients for dishes come from. -Know what is meant by hygiene and how we can avoid the spread of germs. -Give an opinion on the taste, texture and appearance of a Welsh Cake. -Use knowledge to support planning and making of their own 'Welsh cake' using the techniques of cutting, grating, peeling of vegetables and fruit (eg: apple and ginger Welsh Cake, carrot and raisin Welsh Cake)		
Key Skills	-describe textures -wash hands & clean surfaces -think of interesting ways to decorate food -say where some foods come from, (i.e. plant or animal)		

	-describe differences between some food groups (i.e. sweet, vegetable etc.) -discuss how fruit and vegetables are healthy -cut, peel and grate safely, with support		
Sequence of learning	Can I suggest solutions for a problem? Can I investigate food groups? Can I investigate flavour? Can I suggest ways to work safely and hygienically? Can I create my food following my plan? Can I evaluate my work including the opinions of others?		
Key Vocabulary	Food, food groups, research, clean, hygiene, healthy , cut, peel, grate, tools, Welsh Cake		

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Spring 1	Traps, Trams and Trains	Davy Shines the Light!	Ancient Egyptians – original farmers?
			Materials + Structures and Mechanisms
National Curriculum Objectives			<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> -Select from and use a wider range of tools and equipment to perform practical tasks -Understand how key events and individuals in design and technology have helped shape the world -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
Key Knowledge			<ul style="list-style-type: none"> -Know that the Egyptians farmed based on the annual flooding of the Nile -Know why a shaduf was a vital tool in aiding farmers irrigate their land -Design and create a working shaduf, thinking about strength of structure for purpose -Use correct technique for sawing wood and gluing components together to create the shaduf structure
Key Skills			<ul style="list-style-type: none"> -Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] -select materials carefully, considering intended use of the product, the aesthetics and functionality. -explain how product meets design criteria -reinforce and strengthen a 3D frame -select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics -create, follow, and adapt detailed step-by-step plans accurately measure, mark out, cut and shape materials/components -accurately assemble, join and combine materials/components -accurately apply a range of finishing techniques
Sequence of Learning			<p>Can I define and refine a problem and suggest solutions?</p> <p>Can I practise the skills needed for my design?</p> <p>Can I design the product?</p> <p>Can I make my product?</p> <p>Can I test and evaluate the product?</p>
Key Vocabulary			Shaduf, irrigation, flooding, pole, bucket, water movement, mock up, dowel

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Spring 2	A Land Down Under!	How Mighty are Mountains?	Who Lives in Rio?
	Mechanisms	Food	
National Curriculum Objectives	Pupils should be taught to: -Explore and use mechanisms (eg: levers, sliders)	Pupils should be taught to: -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.	
Key Knowledge	-Know what levers and sliders are -Know how to make a moving toy inspired by Australian animals using levers or sliders	Ratatouille – traditional French dish -Know what ratatouille is eg: when they are traditionally eaten and how they are made, It is was also a dish created by farmers in France to use up a glut of vegetables that we would ripen and be ready all at the same time and therefore would cover the discussion of seasonality. -Know how to experiment with a variety vegetables -Know which vegetables are most aesthetically pleasing and most tasty (discuss the benefits of the 'rainbow' of fruit and vegetables in our diet based on the nutrients each colour contains)	
Key Skills	-select tools/equipment to cut, shape, join, finish and explain choices -measure, mark out, cut and shape, with support -choose suitable materials and explain choices -try to use finishing techniques to make product look good - begin to use levers or slides -explain what is being made and why	-carefully select ingredients -use equipment safely -make product look attractive -think about how to grow plants to use in cooking -begin to understand food comes from UK and wider world -describe how healthy diet= variety/balance of food/drinks -explain how food and drink are needed for active/healthy bodies. -prepare and cook some dishes safely and hygienically -grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading	
Sequence of learning	Can I define and refine a problem and suggest solutions? Can I practise the skills needed for my design? Can I design the product? Can I make my product? Can I test and evaluate the product?	Can I suggest solutions for a problem? Can I investigate how food keeps us healthy? Can I investigate flavour? Can I suggest ways to work safely and hygienically? Can I create my food following my plan? Can I evaluate my work including the opinions of others?	
Key Vocabulary	Plan, product, purpose, explain, lever, slider, move, cut, shape, join, finish, measure, mark, finish	, chop, spread, roll, bake, grate, hygiene, flavour, sharp, sweet, sour, savoury	

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Summer 1	The Unsinkable Ship?	What Did the Greeks Do For Us?	Stone Age –Carving the Way Forward?
	Textiles	Materials and Structures	
National Curriculum Objectives	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> -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 -Select from, use a range of tools +equipment to perform practical tasks -Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics -Explore and evaluate a range of existing products 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> - 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. 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 To design a water carrier (jug/jar) 	
Key Knowledge	<ul style="list-style-type: none"> -Know what is meant by fabric. -Name everyday fabrics -Discuss different fabrics and their suitability for purpose. -Know where fabrics are used. -Describe the properties of everyday fabrics and their suitability to purpose. -Experiment with cutting, shaping and fixing fabrics together -Design and make a textile piece. 	<ul style="list-style-type: none"> select suitable tools and equipment, explain choices in relation to required techniques and use accurately *select appropriate materials, fit for purpose; explain choices * work through plan in order. * realise if product is going to be good quality * measure, mark out, cut and shape materials/components with some accuracy *assemble, join, combine materials, components with some accuracy *apply a range of finishing techniques with some accuracy 	
Key Skills	<ul style="list-style-type: none"> -measure, cut and join textiles to make a product, with support -choose suitable textiles -measure textiles -join textiles together to make a product -carefully cut textiles to produce accurate pieces -explain choices of textile -3D textile structure can be made from two identical fabric shapes. 	<ul style="list-style-type: none"> -show design meets a range of requirements and is fit for purpose -begin to create own design criteria -have at least one idea about how to create product and suggest improvements for design. -produce a plan and explain it to others - choose textiles considering appearance and functionality -begin to understand that a simple fabric shape can be used to make a 3D textiles project 	
Sequence of Learning	<ul style="list-style-type: none"> Can I define and refine a problem and suggest solutions? Can I practise the skills needed for my design? Can I design the product? Can I make my product? Can I test and evaluate the product? 	<ul style="list-style-type: none"> Can I suggest ideas to solve a problem? Can I refine my ideas to create a solution? Can I plan my design? Can I test my ideas and suggest improvements? Can I create my design? Can I use and evaluate my design? 	

Key Vocabulary	Measure, cut, join, textile, fabric, sew, attach,		
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	Year 1 and 2	Year 3 and 4	Year 5 and 6
Summer 2	My Ocean, Your Ocean, Our Ocean	Can We Live Anywhere?	Can The Rainforest Be Saved?
			Food
National Curriculum Objectives			<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> -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.
Key Knowledge			<ul style="list-style-type: none"> -Know the flavours of tropical fruits and foods grown in the rainforest (eg: figs, dates, grapefruit, mango, papaya, pineapple, bananas, oranges, guava) -Understand seasonality of fruits -Understand what air miles are and the impact of our food choices -Know how to incorporate these ingredients into a cake using a range of techniques (eg: mash a banana, grate a coconut, juice a pineapple) -Know how to bake a cake, following their own recipe
Key Skills			<ul style="list-style-type: none"> -understand a recipe can be adapted by adding / substituting ingredients -explain seasonality of foods -learn about food processing methods -name some types of food that are grown, reared or caught in the UK or wider world -adapt recipes to change appearance, taste, texture or aroma. -describe some of the different substances in food and drink, and how they can affect health -prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. -use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and
Sequence of Learning			<ul style="list-style-type: none"> Can I suggest solutions for a problem? Can I investigate where food comes from? Can I investigate flavour? Can I suggest ways to work safely and hygienically? Can I create my food following my plan? Can I evaluate my work including the opinions of others?
Key Vocabulary			Aesthetics, flavour, tropical, peeling, chopping, slicing, grating, mixing, spreading, kneading, baking.

