Design Technology Progression of Learning
Wootton St Peter's

"You can't use up creativity. The more you use, the more you have." Maya Angelou

National Curriculum Overview	
Key Stage 1	Key Stage 2
Pupils should be taught to: • Use the basic principles of a healthy and varied diet to prepare dishes • Understand where food comes from. 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	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. 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

• 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.	• 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.

Design			
Nursery and Reception	Years 1 and 2	Years 3 and 4	Years 5 and 6
Understanding Contexts, Users and Purposes			
• Represent own ideas, thoughts and feelings in a variety of ways. • Make independent choices • Know more, so feel confident about coming up with their own ideas.	• Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • State what products they are designing and making	• Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • Describe the purpose of their products • Indicate the design features of their products that will appeal to intended users	• Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • Describe the purpose of their products • Indicate the design features of their products that will appeal to intended users

	• Say whether their products are for themselves or other users • Describe what their products are for • Say how their products will work • Say how they will make their products suitable for their intended users • Use simple design criteria to help develop their ideas	• Explain how particular parts of their products work • Gather information about the needs and wants of individuals and group • Develop their own design criteria and use these to inform their ideas	• Explain how particular parts of their products work • Carry out research, using surveys, interviews, questionnaires and web-based resources • Identify the needs, wants, values of individuals and groups • Develop a simple design specification to guide their thinking
Generating, developing, modelling and communicating ideas			
• Represent own ideas, thoughts and feelings in a variety of ways. • Plan and think ahead about how they will explore or play with objects. • Make independent choices.	• Generate ideas by drawing on their own experiences • Use knowledge of existing products to help come up with ideas • Develop and communicate ideas by talking and drawing • Model ideas by exploring materials, components and construction kits and by making templates and mock-ups • Use information and communication technology, where appropriate, to develop and communicate their ideas	• Share and clarify ideas through discussion • Model their ideas using prototypes and pattern pieces • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • Use computer-aided design to develop and communicate their ideas • Generate realistic ideas, focusing on the needs of the user	• Share and clarify ideas through discussion • Model their ideas using prototypes and pattern pieces • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • Use computer-aided design to develop and communicate their ideas • Generate innovative ideas, drawing on research • Make design decisions, taking account of

		• Make design decisions that take account of the availability of resources	constraints such as time, resources and cost

Make			
Nursery and Reception	Years 1 and 2	Years 3 and 4	Years 5 and 6
Planning			
• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Begin to correct their mistakes themselves.	• Plan by suggesting what to do next • Select from a range of tools and equipment, explaining their choices • Select from a range of materials and components according to their characteristics	• Select tools and equipment suitable for the task • Explain their choice of tools and equipment in relation to the skills and techniques they will be using • Select materials and components suitable for the task • Explain their choice of materials and components according to functional properties and aesthetic qualities • Order the main stages of making	• Select tools and equipment suitable for the task • Explain their choice of tools and equipment in relation to the skills and techniques they will be using • Select materials and components suitable for the task • Explain their choice of materials and components according to functional properties and aesthetic qualities • Produce appropriate lists of tools, equipment and materials that they need • Formulate step-by-step plans as a guide to making

Practical Skills and Techniques			
• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Concentrate on achieving something that is important to them.	• Follow procedures for safety and hygiene • Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components • Measure, mark out, cut and shape materials and components • Assemble, join and combine materials and components • Use finishing techniques, including those from art and design	• Follow procedures for safety and hygiene • Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components • Measure, mark out, cut and shape materials and components with some accuracy • Assemble, join and combine materials and components with some accuracy • Apply a range of finishing techniques, including those from art and design, with some accuracy	• Follow procedures for safety and hygiene • Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components • Accurately measure, mark out, cut and shape materials and components • Accurately assemble, join and combine materials and components • Accurately apply a range of finishing techniques, including those from art and design • Use techniques that involve a number of steps • Demonstrate resourcefulness when tackling practical problems

Evaluate			
Nursery and Reception	Years 1 and 2	Years 3 and 4	Years 5 and 6
Own Ideas and Products			

• Use what they have learnt about media and materials in original ways, thinking about uses and purposes. • Review their progress as they try to achieve a goal. • Solve real problems.	• Talk about their design ideas and what they are making • Make simple judgements about their products and ideas against design criteria • Suggest how their products could be improved	• Identify the strengths and areas for development in their ideas and products • Consider the views of others, including intended users, to improve their work • Refer to their design criteria as they design and make • Use their design criteria to evaluate their completed products	• Identify the strengths and areas for development in their ideas and products • Consider the views of others, including intended users, to improve their work • Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • Evaluate their ideas and products against their original design specification
Existing Products			
Children will explore: • A range of different products. • Explore how different products work	Children will explore: • What products are • Who products are for • What products are for • How products work • How products are used • Where products might be used What materials products are made from • What they like and dislike about products	Children will investigate and analyse: • How well products have been designed • How well products have been made • Why materials have been chosen • What methods of construction have been used • How well products work • How well products achieve their purposes • How well products meet user needs and wants	Children will investigate and analyse: • How well products have been designed • How well products have been made Why materials have been chosen What methods of construction have been used • How well products work • How well products achieve their purposes • How well products meet user needs and wants

		• Who designed and made the products? • Where products were designed and made • When products were designed and made • Whether products can be recycled or reused	• How much products cost to make? How innovative products are • How sustainable the materials in products are? • What impact products have beyond their intended purpose

Technical Knowledge Making Products Work			
Nursery and Reception	Years 1 and 2	Years 3 and 4	Years 5 and 6
• Recognise that a range of technology is used in places such as homes and schools. • Select and use technology in different ways. • Sort materials.	Children will know: • About the simple working characteristics of materials and components • About the movement of simple mechanisms such as levers, sliders, wheels and axles • How freestanding structures can be made stronger, stiffer and more stable • That a 3-D textiles product can be assembled from two identical fabric shapes • That food ingredients should be combined according to their sensor characteristics	• Use learning from science to help design and make products that work • Use learning from mathematics to help design and make products that work • Know that materials have both functional properties and aesthetic qualities • Know that materials can be combined and mixed to create more useful characteristics • Know that mechanical and electrical systems have an input, process and output	• Use learning from science to help design and make products that work • Use learning from mathematics to help design and make products that work • Know that materials have both functional properties and aesthetic qualities • Know that materials can be combined and mixed to create more useful characteristics • Know that mechanical and electrical systems have an input, process and output

	• The correct technical vocabulary for the projects they are undertaking	• Use the correct technical vocabulary for the projects they are undertaking Children will know: • How mechanical systems such as levers and linkages or pneumatic systems create movement • How simple electrical circuits and components can be used to create functional products • How to program a computer to control their products • How to make strong, stiff shell structures • That a single fabric shape can be used to make a 3D textiles product • That food ingredients can be fresh, precooked and processed	• Use the correct technical vocabulary for the projects they are undertaking Children will know: • How mechanical systems such as cams or pulleys or gears create movement • How more complex electrical circuits and components can be used to create functional products • How to program a computer to monitor changes in the environment and control their products • How to reinforce and strengthen a 3D framework • That a 3D textiles product can be made from a combination of fabric shapes • That a recipe can be adapted by adding or substituting one or more ingredients

Food Technology			
Nursery and Reception	Years 1 and 2	Years 3 and 4	Years 5 and 6
Where Food Comes From			

• Children will begin to explore foods growing in the garden and school allotment. • To begin to understand that fruits and vegetables are grown.	Children will know: • All food comes from plants or animals • Food has to be farmed, grown elsewhere (e.g. home) or caught	Children will know: • 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 • What seasons foods grow best	Children will know: • 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 Seasons may affect the food available • How food is processed into ingredients that can be eaten or used in cooking
Food Preparation, Cooking and Nutrition			
• Children will begin to recognise some healthy foods.	Children will know: • How to name and sort foods into the five groups in The Eatwell Plate • That everyone should eat at least five portions of fruit and vegetables every day • How to prepare simple dishes safely and hygienically, without using a heat source • How to use techniques such as cutting, peeling and grating	Children will know: • How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • That a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell plate • That to be active and healthy, food and drink are	Children will know: • How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking • That recipes can be adapted to change the appearance, taste, texture and aroma • That different food and drink contain different substances – nutrients,

		needed to provide energy for the body	water and fibre – that are needed for health

Design Technology Long Term Overview

EYFS			
CYCLE	**AUTUMN TERM**	**SPRING TERM**	**SUMMER TERM**
A	**Collage; provide resources that enable cutting and sticking activities** **Christmas art and craft** *Rationale;* *To inspire and excite* *To encourage creativity* *To acquire knowledge* *To open eyes to world beyond immediate environment* *Link to; topics on 'Fairytales' and 'Minibeasts'*	**Sculpture; papier mache planets** **Clay fossils** **Printing; planets** **Collage; dinosaurs** *Rationale;* *To inspire and excite* *To encourage creativity* *To acquire knowledge* *To open eyes to world beyond immediate environment* *Link to; topics on 'space' and 'dinosaurs'*	**Cooking** **Design own costume** *Rationale;* *To inspire and excite* *To encourage creativity* *To acquire knowledge of the world in which we live* *To open eyes to world beyond immediate environment* *Link to; topics on 'On the farm' and 'construction'*
B			

	Collage; provide resources that enable cutting and sticking activities **Christmas art and craft** *Rationale;* *To inspire and excite* *To encourage creativity* *To acquire knowledge* *To open eyes to world beyond immediate environment* *Link to; topics on 'Fairytales' and 'Minibeasts'*	**Sculpture; gingerbread house, make a fairytale door using clay, minibeasts using playdough, salt dough ladybirds** **Printing; make a butterfly using sponges to print** **Collage; paper plate frogs, dried peas and beans collage** **Food; make honey sandwiches** *Rationale;* *To inspire and excite* *To encourage creativity* *To acquire knowledge* *To open eyes to world beyond immediate environment* *Link to; topics on 'Fairytales' and 'Minibeasts'*	**Sculpture; milk bottle elephants, clay fish, pirate boats** **Collage; paper plate lions, African necklaces, African paper patterns, fish collage** **Food; make ice lollies** *Rationale;* *To inspire and excite* *To encourage creativity* *To acquire knowledge of the world in which we live* *To open eyes to world beyond immediate environment* *Link to; topics on 'On Safari' and 'At the Seaside'*

KEY STAGE 1			
CYCLE	**AUTUMN TERM**	**SPRING TERM**	**SUMMER TERM**
A	**Make cardboard Paddington Bears** **Rationale:** Cutting and sticking accurately. Relates to Famous bears in history	R**eplica Houses from Pudding Lane** **Rationale:** Brings to life our topic the Great Fire of London and culminates with a re-enactment of the fire for parents and other classes to watch and creates a lasting memory for the children.	**Make a circus Puppet from fel**t Children can then create their own circus puppet shows. **Rationale:** Builds confidence in their story telling skills

	Clay Owls **Rationale:** Improves fine motor skills adding detail Encourages self-belief.	**Build a Boat for Max** **Rationale:** Related to book, Where the wIld things are. It is then used in science to test what floats and sinks. Builds resilience in the children.	**Seascape and with papier mache animals** **Sealife biscuits** **Rationale:** Both activities related to out topic The seaside. Children follow school values and persevere to get their seascape as they planned.
	P**uppets of the Three Bear** **Make a clay bowl** **Rationale:** Puppets used to retell the story. Chn gain independence in selecting their design for their bowls.	**Marshmallow Igloo** **Rationale:** Chn understand how long it takes and the skill it takes to build an igloo. Encourages creativity.	**Make paper aeroplanes** **Rationale:** Develops independent learning, excites pupils and it is something that happens in our book Hermelin.
B	**Make African Jewellery** **Rationale:** Be aware of other cultures. Understand and respect diversity. Take risks with their designs and put right if they go wrong.	**Egg Box dragon** **Queens Tea Party** **Rationale:** Provides knowledge on how to succeed in life being able to make cakes and sandwiches. Create a split pin knight Make a sword and shield Rationale: - Provides an enjoyable curriculum.	**Make a bird mask.** **Rationale:** Can use for retelling the Freedom bird story. C**reate layers of the Rainforest. Make a Rainforesrt animal from masking tape and card.** **Rationale:** Enables children to use what they have learnt about the Rainforest and be creative in their design. The activities. Improve well-being and mental wellness and opens children's eyes to a world beyond their immediate surroundings.

KEY STAGE 2: YEARS 3 & 4

CYCLE	AUTUMN TERM	SPRING TERM	SUMMER TERM
A			Battery operated lights *Rationale: link to topic of electricity* Cooking – Anglo Saxon and Viking feast *Rationale: link to topic of Vikings and Anglo Saxons, where food comes from, seasonality, range of cooking techniques, healthy eating*
	Earthquake resistant structures *Rationale: link to topic rocks, understanding environmental elements around the world*		Shadow puppets *Rationale: link to topic of light. Provide entertainment for community (performances to EYFS and KS1), courage to perform*
B		Pitched instruments *Rationale: link to topic of sound, Provide entertainment for community, courage to perform*	
	Magnetic Games *Rationale: link to topic of forces and magnets*		Cooking - soup *Rationale: link to class book, Quill Soup. Principles of healthy eating, seasonality, use range of cooking techniques*

KEY STAGE 2: YEARS 5 & 6			
CYCLE	**AUTUMN TERM**	**SPRING TERM**	**SUMMER TERM**
A			
	Greek Café *Food Technology* **Greek Temples** **Rationale:** Develop life skills in cooking and preparing food. Buidling community – creating the cafe for parents and carers to come too.	**Clothing for Warmth –** Design and sew hat and mittens to use in the Antarctic. **Rationale:** Re-using and up-cycling old clothes to create hat and mittens. Links into our school motto of creating a better more sustainable future.	**Cams, Cogs and Followers** *Mechanical Systems* **Rationale:** Make moving animals link onto topic. Children to choose endangered animals to develop care for the environment and protect the planet.
B			**Recycle and Re-use**

			Children to design and make and re-purpose things to create something new **Rationale:** Links to school motto, developing care for our world and the planet. Thinking about recycling and repurposing.
	Light up Victorian House *Electrical Systems* **Rationale:** Links into science topic of light and history about the Victorians.		**Exploring Complex Structures** Moving fairground rides **Rationale:** Links into last terms trip to the fairground for inspiration. Links to topic 'Leisure and Entertainment'.