



Wragby Primary School

Design & Technology Curriculum

Design and Technology Intent

LET'S GO INVENT TOMORROW INSTEAD OF WORRYING ABOUT WHAT HAPPENED YESTERDAY. – STEVE JOBS

At Wragby it is our intent for DT to offer children the chance to use creative thinking and design within a defined purpose and tangible outcome. Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in a process of designing and making. They work in a range of contexts through our topic based approach which allows for cross curricular links to be made.

Through the study of DT pupils acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the world.

Long Term Plan

Subject: Design Technology

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	All About Me: Introducing Construction kits Making Faces Building House Design Pets Home Playdough	Tell me a story: Traditional Story House building. Gingerbread House Sweets. Split Pin puppets Making story props Make a firework.	To Infinity and Beyond: Rocket Building UFO making Paper Mache Planets Playdough Aliens Shuttle building Moonscape construct ion outdoors. Shape Rockets	Wonderful World: Farm Buildings Small and Large Construction Kits Tractor Building Insect design and make.	Horrible Histories: Castle building Cardboard and crate castle walls. Den Building Making shields and helmets Peg Knights Dragon Masks	Pack your Bags: Bag design Sandcastles Famous buildings Vehicle designs Jigsaws Flag making and design.
Year 1	- Making toys - Design a purposeful, functional and appealing product based on a design. - Use a range of tools and materials to create practical tasks.		Art focus		- Food focus – understand where different food comes from - Use basic principles of healthy diet to prepare dishes (seafood)	
Year 2	- Food focus - titanic era ‘Apple brown Betty’ - Axles and wheels – Stephenson’s rocket - Candy cane mouse – joins and cutting,		- Food focus – Pirate themed Hard Tack biscuits/ pirate kebabs. - Sliders – moving pictures – ship sailing, pirate stealing treasure		- Food focus – Twinkl popcorn/ balloon cake pops. - Lever – Circus performers.	
Year 3	Art Focus		- Design and make a Viking costume for celebration day (Homework) - Design and make brooches - Design and make a Viking Longboat - Food Focus – Anglo Saxon dishes for celebration day		- Make a rainforest animal – moving parts. - Make a soft rainforest animal/toy (textiles)	
Year 4	Weekly food technology – links to Mediterranean diet.		Bridge Building – famous bridges around the world.		Felt Punch and Judy puppets	
Year 5	Critique Quentin Blake illustrations		Design packaging for space food		- Canopic Jars. - Shaduf - Egyptian food	
Year 6	- Women’s Land Army/ cooking from rations/ design a WW2 meal - V.E day celebrations - Healthy varied diet - Prepare and cook a variety of predominately savoury dishes - Understand seasonality.		Design and make magic tricks – pulleys, lighting, selecting own materials and creating prototypes.		Plastic/ recycled material sculptures/ modelling – animals/	

Progression in Design Technology

Reception TERMS 1 - 6	Design	Make	Evaluate	Technical Knowledge – mechanisms, materials, textiles, electrical	Technical Knowledge - Food
	*Select appropriate resources *Use gestures, talking and arrangements of materials and components to show design * Use contexts set by the teacher and myself *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.) PD MH 6 EAD BI 6 EAD EUMM 6 MN 6 CLS6	*Construct with a purpose, using a variety of resources *Use simple tools and techniques *Build / construct with a wide range of objects *Select tools & techniques to shape, assemble and join *Replicate structures with materials / components *Discuss how to make an activity safe and hygienic *Record experiences by drawing, writing, voice recording *Understand different media can be combined for a purpose EAD BI 6 EAD EUMM 6 PDHSC6 CLS6	*Adapt work if necessary *Dismantle, examine, talk about existing objects/structures *Consider and manage some risks *Practise some appropriate safety measures independently *Talk about how things work *Look at similarities and differences between existing objects / materials / tools *Show an interest in technological toys *Describe textures UTW 6 PD MSC CL 6 EAD EUMM6	UTW6 EADBI6	*Begin to understand some food preparation tools, techniques and processes *Practise stirring, mixing, pouring, blending *Discuss how to make an activity safe and hygienic *Discuss use of senses *Understand need for variety in food *Begin to understand that eating well contributes to good health UTW 6 PDHSC6 PDMH6

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<u>Toys</u> <u>Design</u> * have own ideas * explain what I want to do *explain what my product is for, and how it will work * use pictures and words to plan, begin to use models * design a product for myself following design criteria <u>Make</u> *explain what I'm making and why *consider what I need to do next *select tools/equipment to cut, shape, join, finish and explain choices *try to use finishing techniques to make product look good <u>Evaluate</u> *talk about my work, linking it to what I was asked to do *talk about existing products, and say what is and isn't good * talk about things that other people have made *begin to talk about what could make product better		<u>Superheroes</u> <u>Design</u> *research similar existing products <u>Make</u> *choose suitable materials and explain choices <u>Materials/ Structures</u> *describe differences in materials *suggest ways to make material/product stronger		<u>Seaside</u> <u>Make</u> *measure, mark out, cut and shape, with support *work in a safe and hygienic manner <u>Evaluate</u> * talk about existing products considering: use, materials, how they work, audience, where they might be used <u>Technical Knowledge – Food</u> *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	
Year 2	<u>Postman Pat</u> <u>Design</u> *have own ideas and plan what to do next *explain what I want to do and describe how I may do it *explain purpose of product, how it will work and how it will be suitable for the user *describe design using pictures, words, models, diagrams,		<u>Madagascar</u> <u>Design</u> *have own ideas and plan what to do next *explain what I want to do and describe how I may do it *explain purpose of product, how it will work and how it will be suitable for the user *describe design using pictures, words, models, diagrams, begin to		<u>Circus</u> <u>Design</u> *have own ideas and plan what to do next *explain what I want to do and describe how I may do it *explain purpose of product, how it will work and how it will be suitable for the user *describe design using pictures, words, models, diagrams,	

	begin to use ICT. *design products for myself and others following design criteria *choose best tools and materials and explain choices *use knowledge of existing products to product ideas <u>Materials/Structures</u> *measure materials *describe some different characteristics of materials *join materials in different ways *use joining, rolling or folding to make it stronger *use own ideas to try to make product stronger <u>Mechanisms</u> *begin to understand how to use wheels and axles <u>Technical Knowledge – Food</u> *explain hygiene and keep a hygienic kitchen *describe properties of ingredients and importance of varied diet *say where food comes from (animal, underground etc.) *describe how food is farmed, home-grown, caught *draw eat well plate; explain there are groups of food *describe “five a day” *cut, peel and grate with increasing confidence	use ICT. *design products for myself and others following design criteria *choose best tools and materials and explain choices *use knowledge of existing products to product ideas. <u>Mechanisms</u> *begin to understand how to use wheels and axles	begin to use ICT. *design products for myself and others following design criteria *choose best tools and materials and explain choices *use knowledge of existing products to product ideas <u>Mechanisms</u> *begin to understand how to use wheels and axles <u>Textiles</u> *measure textiles
Year 3	<u>Rocks and soils.</u>	<u>Explorers and Settlers</u> <u>Design</u> *begin to research others’ needs * show design meets a range of requirements * describe purpose of product * follow a given design criteria	<u>Rainforests</u> <u>Technical Knowledge – Food</u> *carefully select ingredients *use equipment safely *make product look attractive *think about how to grow plants to use in cooking

		* have at least one idea about how to create product * create a plan which shows order, equipment and tools *describe design using an accurately labelled sketch and words * make design decisions *explain how product will work * make a prototype <u>Make</u> *select suitable tools/equipment, explain choices; begin to use them accurately * select appropriate materials, fit for purpose. * work through plan in order *consider how good product will be * begin to measure, mark out, cut and shape materials/components with some accuracy * begin to assemble, join and combine materials and components with some accuracy * begin to apply a range of finishing techniques with some accuracy <u>Evaluate</u> * look at design criteria while designing and making *use design criteria to evaluate finished product * say what I would change to make design better *begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose <u>Technical Knowledge</u> <u>Materials/structures</u> *use appropriate materials *work accurately to make cuts and holes * join materials *begin to make strong structures	*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 and baking.
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		<u>Textiles</u> *join different textiles in different ways *choose textiles considering appearance and functionality *begin to understand that a simple fabric shape can be used to make a 3D textiles project	
Year 4	<u>Ancient Greece</u> <u>Design</u> *have at least one idea about how to create product and suggest improvements for design. *include an annotated sketch *make and explain design decisions considering availability of resources *explain how product will work <u>Make</u> *measure, mark out, cut and shape materials/components with some accuracy. <u>Evaluate</u> *research whether products can be recycled or reused <u>Technical Knowledge - Food</u> *explain how to be safe/hygienic *think about presenting product in interesting/attractive ways. *understand ingredients can be fresh, precooked or processed *begin to understand about food being grown, reared or caught in the UK or wider world *describe eat well plate and how a healthy diet = variety/balance of food and drinks *explain importance of food and drink for active, healthy bodies	<u>Around the World</u> <u>Make</u> *apply a range of finishing techniques with some accuracy <u>Technical Knowledge</u> <u>Materials/Structure</u> *measure carefully to avoid mistakes *attempt to make a product strong *continue working on product even if original didn't work *make a strong, stiff structure <u>Mechanisms</u> *select most appropriate tools/techniques *explain alterations to product after checking it *grow in confidence about trying new/different ideas *use levers and linkages to create movement *use pneumatic to create movement	<u>Victorians</u> <u>Design</u> *Use research for design ideas *show design meets a range of requirements and is fit for purpose *begin to create own design criteria *produce a plan and explain it to others *say how realistic a plan is *make a prototype *begin to use computers to show design <u>Make</u> 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 *assemble, join and combine materials and components with some accuracy <u>Evaluate</u> *refer to design criteria while design criteria while designing and making *use criteria to evaluate product *begin to explain how I could improve original design

	*prepare and cook some dishes safely and hygienically. *use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading.		*evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose. *discuss by whom, when and where products were designed *know about some inventors/designers/engineers/manufacturers of ground-breaking products <u>Technical Knowledge- materials</u> <u>Textiles</u> *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 <u>Technical Knowledge - Food</u> *use the following techniques: kneading and baking
Year 5	<u>Roald Dahl</u>	<u>Space</u> <u>Design</u> * use internet and questionnaires for research and design ideas *take a user's view into account when designing * begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose *create own design criteria * have a range of ideas *produce a logical, realistic plan and explain it to others. *use cross-sectional planning and annotated sketches * make design decisions considering time and resources. *clearly explain how parts of product will work. *model and refine design ideas by making prototypes and using pattern pieces. *use computer-aided designs	<u>Egyptians</u> <u>Mechanisms</u> *refine product after testing *grow in confidence about trying new different ideas *begin to use cams, pulleys or gears to create movement. <u>Food</u> *explain how to be safe/hygienic and follow own guidelines *present product well – interesting, attractive, fit for purpose *begin to understand seasonality of foods *understand food can be grown, reared or caught in the UK and the wider world *describe how recipes can be adapted to change appearance, taste, texture, aroma. *explain how there are different substances in food/drink needed for health

		<u>Make</u> * use selected tools/equipment with good level of precision * produce suitable lists of tools, equipment/materials needed *select appropriate materials, fit for purpose; explain choices, considering functionality *create and follow detailed step-by-step plan *explain how product will appeal to an audience *mainly accurately measure, mark out, cut and shape materials/components. *mainly accurately assemble, join and combine materials/components *mainly accurately apply a range of finishing techniques *use techniques that involve a small number of steps *begin to be resourceful with practical problems. <u>Evaluate</u> *evaluate quality of design while designing and making *evaluate ideas and finished product against specification, considering purpose and appearance. *test and evaluate final product * evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose *begin to evaluate how much products cost to make and how innovative they are *research how sustainable materials are *talk about some key investors/designers/engineers/chefs/manufacturers of ground breaking products. <u>Technical Knowledge</u> <u>Materials/structures</u> *select materials carefully, considering intended use of product and appearance	*prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source. *use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
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		*explain how product meets design criteria *measure accurately enough to ensure precision *ensure product is strong and fit for purpose *begin to reinforce and strengthen a 3D frame <u>Textiles</u> *think about user and aesthetics when choosing textiles *use own template *think about how to make a products strong and look better *think of a range of ways to join things *begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.	
Year 6	<u>World War Two</u> <u>Technical Knowledge</u> <u>Food</u> *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 baking.	<u>Harry Potter</u>	<u>Water Worlds</u>

Impact

Within design and technology, we strive to prepare children to take part in the development of tomorrow's rapidly changing world. We aim to encourage children to become creative problem-solvers, both as individuals and as part of a team. Through the study of design and technology, children combine practical skills with an understanding of aesthetic, social and environmental issues, as well as of functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impact. We focus on progression of knowledge and skills and discreet vocabulary progression also form part of the units of work.

We measure the impact of our curriculum through the following methods:

- Assessing children's understanding of topic linked vocabulary before and after the unit is taught.
- Summative assessment of pupil discussions about their learning.
- Images of the children's practical learning.
- Interviewing the pupils about their learning (pupil voice).
- Moderation staff meetings where pupil's books are scrutinised and there is the opportunity for a dialogue between teachers to understand their class's work.
- Marking of work in books.