

A bespoke Design & Technology Curriculum- The Tilstock Way

Intent

At Tilstock we want our children to pupils design and make products that solve real and relevant problems within a variety of contexts. Through their D&T lessons and Weekly STEM afternoons, we want our children to acquire good subject knowledge and draw on knowledge and skills from other subjects, such as maths, science, computing and art. Through cross-curricular learning and focuses on

Through our approach, children will develop confidence in taking risks, becoming resourceful, creative and innovative individuals.

Implementation

Children study units of work using guidance from the 'Design an Technology Association'. These are carefully planned to ensure a sequential progression of knowledge and skills that builds on previous learning and provides both support and challenge for learners.

Where possible these units of work are linked to themes and topics, so that children are not only able to explore, identify and marvel over the wonders of significant designers and designs, but how they have evolved over time. We hope that this will inspire our children to want to take risks and create creative designs of their own.



Tilstock Design Pathway



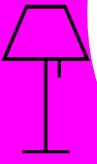
Years 1, 2

Years 3, 4

Years 5, 6

Lamps

Textiles



Creating strong and secure blanket stitches when joining fabric. Using applique to attach pieces of fabric decoration

Incorporating a circuit into a base

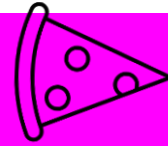
Bridges

Structures

Making a range of different shaped beam bridges



Americano



Food and nutrition

Following a recipe, including using the correct quantities of each ingredient
Adapting a recipe based on research

The Solar System



Electrical Systems

Making mechanisms and/ or structures using sliders, pivots and folds to produce movement

Mechanisms



Food & nutrition

Following a baking recipe
• Cooking safely, following basic hygiene rules
• Adapting a recipe

Ironbridge



Structures

Creating a range of different shaped frame structures

Puppets



Mechanisms

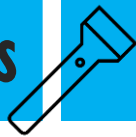
Measuring, marking, cutting and assembling with increasing accuracy

Textiles



Sewing cross stitch to join fabric
Decorating fabric using applique
Completing design ideas with stuffing and sewing the edges

Torches



Electrical systems

Making a torch with a working electrical circuit and switch

Smoothies



Chopping fruit and vegetables safely to make a smoothie
Identifying if a food is a fruit or a vegetable
Learning where and how fruits and vegetables grow

Cooking & nutrition

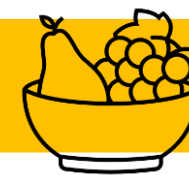
Bridges



Mechanisms



Following a design to create moving models that use levers and sliders



The Queen's Coronation

Structures



Windmills

Following instructions to cut and assemble the supporting structure of a windmill



The moon landings

Textiles




Selecting and cutting fabrics for sewing
• Decorating fabric using glue or running stitch


Squirrel Class Skills progression

	Year 1
Developing, <u>planning</u> and <u>communicating</u> ideas.	Draw on their own experience to help generate ideas <ul style="list-style-type: none"> Suggest ideas and explain what they are going to do Identify a target group for what they intend to design and make Model their ideas in card and paper Develop their design ideas applying findings from their earlier research
Working with tools, equipment, <u>materials</u> and components to make quality products (<u>inc</u>-food)	Make their design using appropriate techniques <ul style="list-style-type: none"> With help measure, mark out, <u>cut</u> and shape a range of materials Use tools <u>eg</u> scissors and a hole punch safely Assemble, join and combine materials and components together using a variety of temporary methods <u>e.g.</u> glues or masking tape Select and use appropriate fruit and vegetables, <u>processes</u> and tools Use basic food handling, hygienic <u>practices</u> and personal hygiene Use simple finishing techniques to improve the appearance of their product
Evaluating processes and products	Evaluate their product by discussing how well it works in relation to the purpose <ul style="list-style-type: none"> Evaluate their products as they are developed, identifying strengths and possible changes they might make Evaluate their product by asking questions about what they have made and how they have gone about it


	Year 2
Developing, <u>planning</u> and <u>communicating</u> ideas.	<ul style="list-style-type: none"> Generate ideas by drawing on their own and other people's experiences Develop their design ideas through discussion, <u>observation</u>, drawing and modelling Identify a purpose for what they intend to design and make Identify simple design criteria Make simple drawings and label parts
Working with tools, equipment, <u>materials</u> and components to make quality products (<u>inc</u>-food)	<ul style="list-style-type: none"> Begin to select tools and materials; use vocab' to name and describe them Measure, cut and score with some accuracy Use hand tools safely and appropriately Assemble, <u>join</u> and combine materials in order to make a product Cut, <u>shape</u> and join fabric to make a simple garment. Use basic sewing techniques Follow safe procedures for food safety and hygiene Choose and use appropriate finishing techniques
Evaluating processes and products	<ul style="list-style-type: none"> Evaluate against their design criteria Evaluate their products as they are developed, identifying strengths and possible changes they might make Talk about their ideas, saying what they like and dislike about them


Otter Class Skills progression

	Year 3
Developing, <u>planning</u> and communicating ideas.	<ul style="list-style-type: none"> • Generate ideas for an item, considering its purpose and the user/s • Identify a purpose and establish criteria for a successful product. • Plan the order of their work before starting • Explore, <u>develop</u> and communicate design proposals by modelling ideas • Make drawings with labels when designing
Working with tools, equipment, <u>materials</u> and components to make quality products (<u>inc</u> -food)	<ul style="list-style-type: none"> • Select tools and techniques for making their product • Measure, mark out, <u>cut</u>, <u>score</u> and assemble components with more accuracy • Work safely and accurately with a range of simple tools • Think about their ideas as they make progress and be willing change things if this helps them improve their work • Measure, <u>tape</u> or pin, cut and join fabric with some accuracy • Demonstrate hygienic food preparation and storage • Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT
Evaluating processes and products	<ul style="list-style-type: none"> • Evaluate their product against original design criteria e.g. how well it meets its intended purpose • Disassemble and evaluate familiar products

	Year 4
Developing, <u>planning</u> and communicating ideas.	<ul style="list-style-type: none"> • Generate ideas, considering the purposes for which they are designing • Make labelled drawings from different views showing specific features • Develop a clear idea of what <u>has to</u> be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail • Evaluate products and identify criteria that can be used for their own designs
Working with tools, equipment, <u>materials</u> and components to make quality products (<u>inc</u> -food)	<ul style="list-style-type: none"> • Select appropriate tools and techniques for making their product • Measure, mark out, <u>cut</u> and shape a range of materials, using appropriate tools, equipment and techniques • Join and combine materials and components accurately in temporary and permanent ways • Sew using a range of different stitches, weave and knit • Measure, <u>tape</u> or pin, cut and join fabric with some accuracy • Use simple graphical communication techniques
Evaluating processes and products	<ul style="list-style-type: none"> • Evaluate their work both during and at the end of the assignment • Evaluate their products carrying out appropriate tests

Badger Class Skills progression

	Year 5
Developing, <u>planning</u> and <u>communicating</u> ideas.	<ul style="list-style-type: none"> • Generate ideas through brainstorming and identify a purpose for their product • Draw up a specification for their design • Develop a clear idea of what <u>has</u> to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail • Use results of investigations, information sources, including ICT when developing design ideas
Working with tools, equipment, <u>materials</u> and components to make quality products (<u>inc</u> -food)	<ul style="list-style-type: none"> • Select appropriate materials, <u>tools</u> and techniques • Measure and mark out accurately • Use skills in using different tools and equipment safely and accurately • Weigh and measure accurately (time, dry ingredients, liquids) • Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens • Cut and join with accuracy to ensure a good-quality finish to the product
Evaluating processes and products	<ul style="list-style-type: none"> • Evaluate a product against the original design specification • Evaluate it personally and seek evaluation from others

	Year 6
Developing, <u>planning</u> and <u>communicating</u> ideas.	<ul style="list-style-type: none"> • Communicate their ideas through detailed labelled drawings • Develop a design specification • Explore, <u>develop</u> and communicate aspects of their design proposals by modelling their ideas in a variety of ways • Plan the order of their work, choosing appropriate materials, <u>tools</u> and techniques
Working with tools, equipment, <u>materials</u> and components to make quality products (<u>inc</u> -food)	<ul style="list-style-type: none"> • Select appropriate tools, materials, <u>components</u> and techniques • Assemble components make working models • Use tools safely and accurately • Construct products using permanent joining techniques • Make modifications as they go along • Pin, sew and stitch materials together create a product • Achieve a quality product
Evaluating processes and products	<ul style="list-style-type: none"> • Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests • Record their evaluations using drawings with labels • Evaluate against their original criteria and suggest ways that their product could be improved