



Curriculum Overview DT



Intent

We teach DT to:

- Encourage children to be imaginative, innovative and experiment with trying different methods to make a product.
- Promote reflective thinking in children as they reflect and evaluate the successes and the things that went wrong during the planning or execution of the final product.
- Give children the opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness.
- Encourage children to solve real, relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

Our curriculum aim is for children to:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
 - Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- Critique, evaluate and test their ideas and products and the work of others
- Understand and apply the principles of nutrition and learn how to cook
 - Enjoy designing and making things.



How is DT taught at Heatherside Infants?

At Heatherside Infant School, using the National Curriculum we map out long term coverage of progression of knowledge, understanding and skills. Evidence suggests that basing subjects on children's interests and topics relevant to them, engages and encourages their learning, therefore our Design and Technology planning is designed using the PlanBee units which are underpinned by six core principles: enjoyable, equitable, coherent, cohort-relevant, creative and flexible.

At Heatherside Infant School, we feel it is important to ensure all children are given a broad range of opportunities to develop the skills and knowledge to design and make functional products they will come across and be important in their lives. Our Design Technology lessons encourage the children's imagination, creativity, problem solving and reflection skills.



Vocabulary

	<u>EYFS</u>	<u>KS1</u>	
		Year 1	Year 2
Mechanisms	<p>join</p> <p>pull, push, up, down, straight, curve, forwards, backwards</p> <p>design, make, ideas</p>	<p>slider, lever, pivot, slot, bridge/guide</p> <p>card, masking tape, paper fastener, join</p> <p>pull, push, up, down, straight, curve, forwards, backwards</p> <p>design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	<p>vehicle, wheel, axle, axle holder, chassis, body, cab</p> <p>assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism</p> <p>names of tools, equipment and materials used</p> <p>design, make, evaluate, purpose, user, criteria, functional</p>
Structures	<p>cut, fold, join, build, wall, tower</p> <p>weak, strong, base, top, under, side, corner</p> <p>circle, triangle, square, rectangle</p> <p>design, make, ideas</p>	<p>cut, fold, join, fix</p> <p>structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved</p> <p>metal, wood, plastic</p> <p>circle, triangle, square, rectangle, cuboid, cube, cylinder</p> <p>design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	
Food	<p>fruit and vegetable names, names of equipment and utensils, ingredients, cutting</p> <p>choosing, simple sensory describing words</p> <p>healthy, unhealthy</p>	<p>fruit and vegetable names, names of equipment and utensils</p> <p>sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard</p> <p>flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating, tasting, arranging, popular, design, evaluate, criteria</p>	
Textiles	<p>join, decorate</p> <p>design, make</p>	<p>names of existing products, joining and finishing techniques, tools, fabrics and components</p> <p>template, pattern pieces, mark out, join, decorate, finish</p> <p>features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function</p>	



Progression map / end points - EYFS

Textiles – templates and joining	Food – Preparing Fruit and Vegetables	Mechanisms – Sliders and Leavers	Structures – Freestanding	Mechanisms – Wheels and Axles	30-50 months	40-60 months
<p>Explored and used different fabrics.</p> <p>Cut and joined fabrics with simple techniques.</p> <p>Thought about the user and purpose of products</p>	<p>Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell.</p> <p>Experience of cutting soft fruit and vegetables using appropriate utensils.</p>	<p>Early experiences of working with paper and card to make simple flaps and hinges.</p> <p>Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.</p>	<p>Experience of using construction kits to build walls, towers and frameworks.</p> <p>Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.</p> <p>Experience of different methods of joining card, paper and a range of materials.</p>	<p>Assembled vehicles with moving wheels using construction kits.</p> <p>Explore moving vehicles through play.</p> <p>Gained some experience of designing, making and evaluating products for a specified user and purpose.</p> <p>Developed some cutting, joining and finishing skills with card.</p>	<ul style="list-style-type: none"> • Introduce children to appropriate tools for different materials. • Provide a range of construction materials including construction kits containing a variety of shapes, sizes and ways of joining and support children in their use. 	<ul style="list-style-type: none"> • Discuss the purposes of designing and making tasks. • Teach joining, measuring, cutting and finishing techniques and their names. • Design and make a wide range of objects – selecting appropriate tools. • Encourage children’s evaluations, helping them to use words to explain such as ‘longer’, ‘shorter





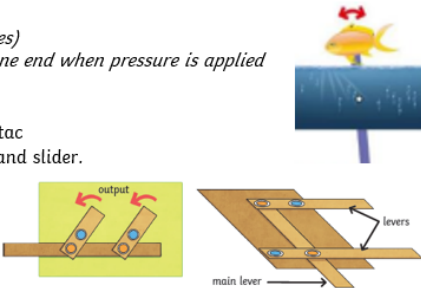
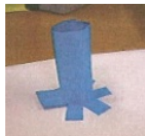
Progression map / end points – Year 1

Year 1

Designing	
Understanding contexts, users and purposes	<ul style="list-style-type: none">• State what products they are designing and making• Describe what their products are for• Say how their products will work• Say how they will make their products suitable for intended users• Use simple design criteria to help develop their ideas
Generating, developing, modelling and communicating ideas	<ul style="list-style-type: none">• Generate ideas by drawing upon own experiences• Use knowledge of existing products to help come up with ideas• Develop and communicate ideas by talking and drawing/ use of IT• Model ideas by exploring components and kits and by making mock ups/templates
Making	
Planning	<ul style="list-style-type: none">• 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
Practical skill and techniques	<ul style="list-style-type: none">• Follow procedures for safety and hygiene• 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• Use correct technical language for the project they are undertaking
Evaluating	
Own ideas and products	<ul style="list-style-type: none">• Talk about their design ideas and what they are making• Make simple judgements about their products/ideas against design criteria• Suggest how their products could be improved
Existing products	<ul style="list-style-type: none">• Explore what products are/what for/how work/how used/materials used/likes and dislikes about a product



Y1 Technical knowledge

Technical knowledge	
<p>Mechanisms</p> <p>(Provide opportunities to practise different joining techniques before completing final piece)</p>	<p>Hinge Joins - Simple hinge using paper or masking tape.</p> 
	<p>Simple Slider - (creating a moving element from side-to-side or up-and-down)</p> <p>Make a single hole then cut two slits. Tape the character/moving element to the end of the card slider then push it through the slits to move it along from left to right or up and down. <u>NB ensure slider is long enough to reveal picture</u></p> 
	<p>Pivot and levers - <i>(pivot: the central point, pin, or shaft on which a mechanism turns or oscillates)</i> <i>(lever: a rigid bar resting on a pivot, used to move a firmly fixed object with one end when pressure is applied to the other end.)</i></p> <ul style="list-style-type: none"> • Use of split pins. Teach how to make a hole for pin with a pencil into blu-tac • Extending movement into an oscillating motion (arc) by using a split pin and slider. <p>Levers with linkage - Once children are confident making a simple lever and pivot, they can start to create movement using several levers attached to a linkage system (with fixed pivots attached to the backing and loose pivots attaching the levers to each other)</p> 
<p>Structure</p> <p>Joining sheet material - using <u>flute joins</u> to aid stability -</p> <ul style="list-style-type: none"> • Adding detail to models using a variety of reclaimed materials focusing on stability • Accuracy of cutting/finishing 	
<p>Food Technology</p> <ul style="list-style-type: none"> • Begin to measure and weigh ingredients. • Use selected tools to carefully and with some accuracy – cut, peel, chop, grate, spread. • Begin to use a food vocabulary using taste, smell, texture, feel. • Understand and know foods that we need for a balanced diet. • Name and sort foods into the five groups in the eatwell Plate. • Know that all food comes from plants or animals. 	





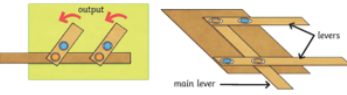




Progression map / end points – Year 2

Year 2	
Designing	
Understanding contexts, users and purposes	<ul style="list-style-type: none"> • State what products they are designing and making • Describe what their products are for • Say how their products will work • Say how they will make their products suitable for intended users • Use simple design criteria to help develop their ideas
Generating, developing, modelling and communicating ideas	<ul style="list-style-type: none"> • Generate ideas by drawing upon own experiences • Use knowledge of existing products to help come up with ideas • Develop and communicate ideas by talking and drawing/ use of IT • Model ideas by exploring components and kits and by making mock ups/templates
Making	
Planning	<ul style="list-style-type: none"> • 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
Practical skill and techniques	<ul style="list-style-type: none"> • Follow procedures for safety and hygiene • 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 • Use correct technical language for the project they are undertaking
Evaluating	
Own ideas and products	<ul style="list-style-type: none"> • Talk about their design ideas and what they are making • Make simple judgements about their products/ideas against design criteria • Suggest how their products could be improved
Existing products	<ul style="list-style-type: none"> • Explore what products are/what for/how work/how used/materials used/likes and dislikes about a product



Y2 Technical knowledge

Technical knowledge	
<p style="text-align: center;">Mechanisms</p> <p>(Provide opportunities to practise different joining techniques before completing final piece)</p>	<p style="text-align: center;"><i>Previously covered in Year 1:</i></p> <ul style="list-style-type: none"> • Hinge Joins - Simple hinge using paper or masking tape. • Simple Slider - creating a moving element from side-to-side or up-and-down) • Pivot - Using split pins to create a moving element To extend movement into an oscillating motion (arc) by using a split pin and slider. • Levers with linkage - Once children are confident making a simple lever and pivot, they can start to create movement using several levers attached to a linkage system.) <div style="display: flex; justify-content: space-around; align-items: center;">      </div> <ul style="list-style-type: none"> • Fixed axle with accurate joining. • Rotating (+) axle with fixed wheels – <ul style="list-style-type: none"> ○ Axle held in place by a straw. ○ Axle holder made with pegs. ○ Axle holder using cardboard triangles <div style="display: flex; justify-content: space-around; align-items: center;">   </div>
<p style="text-align: center;">Structure</p>	<p>Textiles</p> <ul style="list-style-type: none"> • Generate ideas through talking, drawing, templates, mock-ups and information and communication technology. Using a template to create two identical shapes. • Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. • Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.
<p style="text-align: center;">Food Technology</p>	<ul style="list-style-type: none"> • Observe hygiene, health and safety hazards. • Begin to choose/select appropriate materials to cut, peel, slice etc. • To use these tools with increased accuracy. • Develop food vocabulary. • Group familiar foods, e.g. fruit and vegetable. • Measure and weigh food items using <u>non</u> and statutory measures. • Understand the need for a variety of foods in a diet. • Combine food ingredients according to their sensory characteristics



KS1 Skills Progression

Skills	Paper and card	Clay and play dough	Construction	Food
Cutting	<ul style="list-style-type: none"> Following a direction Cut to a point and stop Cut a straight line Cut a curve Holding scissors correctly (safety) Saw backward and forward motion. Measure from edge Spread fingers to control ruler Draw a line 	<ul style="list-style-type: none"> Know how much pressure to apply to cutter Using a knife Cutting away excess 		<ul style="list-style-type: none"> Cutting Grating Peeling
Joining	<p><i>Making a choice between resources such as:</i></p> <ul style="list-style-type: none"> Sellotape- estimating amount needed. Know when to use Masking tape Pva glue- know to glue around the edge, coverage, wiping spreader Pritt stick Pegs Split pins Blue tac Paper clips Staples – overlap strengthen Nails and screws (practise skill using tap tap toy) <p>Other means of joining:</p> <ul style="list-style-type: none"> Fluting Tabs 	<ul style="list-style-type: none"> Scoring and using water to join clay together when making models. 	<ul style="list-style-type: none"> Overlapping bricks to strengthen a join Using a base 	
Shaping and Finishing	<ul style="list-style-type: none"> Design, draft, make, evaluate, make adjustments Estimating: big or small piece? Stencil Curling Fan Fold (edges meeting, pressing down) Rolling Concertina Nets (visualising the shape) Tabs Making a relevant choice Accuracy of measuring Purpose Choice of materials for different media- using pens, paint, printing, fabric, paper, glue etc 	<ul style="list-style-type: none"> Prepare work surface Rolling (creating a sausage shape) Squeezing (making a fist) Kneading Squashing Twisting Pinching Pressure (how much to cut through or mark the clay?) Pulling Keeping the shape (slip to hold the shape) Using templates 	<ul style="list-style-type: none"> Adding detail to construction kits 	