



Year 2

DESIGN TECHNOLOGY

Curriculum Intent

Through studying D&T at Walton Oak, children will create and design projects for a variety of purposes and contexts. Pupils will be able to consider safety and take appropriate risks using specialist tools, materials, mechanisms and equipment. Children will understand the process of planning, refining and modifying whilst considering key design criteria.

Themes:

1. Designing

Researching, disassembly, understanding form and function, planning, sketching, communicating, affordability, management of materials

2. Making

Selecting and using tools safely, measuring with precision, cutting, piercing and joining materials safely, safety in food technology

3. Evaluating

Checking against design criteria, testing, refining and modifying

4. Technical knowledge

Mechanical systems (cams, pulleys, wheels etc), how different materials behave, electrical systems

D&T Knowledge Organiser will all include an image of the 'Research – Design – Make - Evaluate' model. This will be referred to in all projects to help children understand how this process is used in technological design and also across the curriculum and in life.

DESIGN & TECHNOLOGY: CORE STUDY FOR YEAR TWO

1. Designing			
Core knowledge	Core skills	Core vocabulary	Taught through
<ul style="list-style-type: none"> ● Understand how familiar products work and meet user needs (e.g., puppets used for storytelling, pizza designed to be nutritious and enjoyable). ● Recognize how simple research or observation can inform a design. ● Learn that planning helps organize thoughts and materials effectively. ● Develop understanding of basic concepts of functionality, appearance, and user preference. ● Begin to consider which materials are appropriate for a design, including those used in food. ● Recognize the importance of thinking about health and dietary needs when designing food products. ● Explore how cultural and personal preferences influence design choices ● Understand how to design purposeful, functional, appealing products based on design criteria. 	<ul style="list-style-type: none"> ● Use disassembly and discussion to explore how products are made and function. ● Clearly describe who the product is for and what it should do. ● Generate multiple design ideas using drawing, discussion, and modelling. ● Refine drawings to include labels, material suggestions, or basic steps. ● Select appropriate techniques, explaining the basic steps. ● Use drawings to record ideas as they are developed. ● Use kits/reclaimed materials to develop an idea. ● Begin to evaluate existing products to inform their ideas. 	<ul style="list-style-type: none"> ● design ● plan ● function ● user ● research ● explore ● label ● materials ● puppet ● lever ● structure ● improve ● modify ● ingredient ● preference ● health 	<ul style="list-style-type: none"> ● Investigating puppets to understand how they move and appeal to users. ● Sketching and planning healthy pizzas with toppings selected for taste and nutrition. ● Designing simple structures like Tudor houses, including visual and functional planning. ● Planning mechanisms (e.g., levers) for movement in simple models.
<p>Extended Skills and Vocabulary</p> <ul style="list-style-type: none"> ● Use Key vocabulary when they are describe their products ● Begin to consider design constraints such as time, resources, or user requirements. ● Use words like criteria, prototype, evaluation, and suitable. ● Discuss alternative design options and select the best fit for the task. 			

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2. Making			
Core knowledge	Core skills	Core vocabulary	Taught through
<ul style="list-style-type: none"> ● Build structures, exploring and discussing how they can be made stronger, stiffer and more stable. ● Understand different joining techniques such as gluing, stapling, stitching, and tabbing. ● Select from and use a range of tools and equipment to perform practical tasks ● Know how to use a broader range of tools safely (e.g., fabric scissors, paper fasteners). ● Begin measuring materials more accurately ● Recognize and apply hygiene rules in food preparation (e.g., handwashing, separate tools for raw/cooked items) ● Recognise a range of familiar ingredients and explain what a balanced diet is. ● Follow simple recipes either in simple sentences or using pictures. ● Describe the eat well plate they could create using the skills and knowledge they've been taught. 	<ul style="list-style-type: none"> ● Choose suitable tools for making whilst explaining why they should be used ● With help measure, cut and shape paper and fabric with some accuracy. ● Learn to use hand tools safely and appropriately. ● Start to assemble, join and combine materials in order to make a product. ● Assemble materials securely using appropriate joining techniques. ● Grate and chop a range of ingredients. ● Follow simple recipes or food sequences with adult support. ● Begin to measure and mix ingredients using appropriate utensils. ● Mix, stir and combine wet and dry ingredients ● Follow safety and food hygiene procedures ● Cut out a simple template shape from felt. Decorating with beads, sequins, braids or ribbons. ● Gain confidence in threading a needle. 	<ul style="list-style-type: none"> ● cut ● join ● attach ● tool ● cut ● measure ● join ● slider ● pivot ● lever ● stitch ● staple ● glue ● fold ● hygiene ● ingredients ● safety ● mix ● prepare 	<ul style="list-style-type: none"> ● Constructing textile puppets with stitched or glued joins. ● Building lever-based models to create simple moving parts. ● Assembling Tudor houses from card with tabs and glue. ● Making and decorating healthy pizzas using clean tools and measuring ingredients.
<p>Extended Skills and Vocabulary</p> <ul style="list-style-type: none"> ● Begin using a wider range of kitchen tools with support (e.g., peelers, butter knives). ● Use words like accurate, secure, assemble, and component. ● Reflect on safe tool handling and improve independence when working with food or materials. ● Use tools with increasing control and precision (e.g., hole punch, ruler for measuring, safe knife techniques with supervision). ● Combine joining techniques (e.g., tabs and glue, split pins) for greater strength. 			

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3. Evaluating			
Core knowledge	Core skills	Core vocabulary	Taught through
<ul style="list-style-type: none"> ● Understand that designs are made with criteria or goals (e.g., must move, must stand up). ● Understand the purpose of evaluating work against clear, simple criteria. ● Know and use technical vocabulary relevant to the project. ● Learn how to give and receive feedback thoughtfully and respectfully. ● Recognize that materials or methods can be changed to make a product better. ● Understand that modifications can be made to improve products ● Evaluate their ideas and products against design criteria. 	<ul style="list-style-type: none"> ● Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria including intended user and purpose. ● Evaluate their ideas throughout and their final products against original design criteria ● Add notes to design to help discuss and evaluate their work. ● Talk about their design ideas and what they have made ● Talk about strengths and areas for improvement in their own work and others’. ● Make simple judgements of how the product met their design ideas ● Suggest changes based on how well the product functions or looks. ● Compare the final product with the original plan or design criteria. ● Evaluate taste, texture, and presentation in food products. ● Record simple evaluations in pictures, labels or sentences. 	<ul style="list-style-type: none"> ● evaluate ● test ● improve ● fix ● better ● feedback ● change ● improve ● criteria ● appearance ● taste ● function ● success ● compare ● texture 	<ul style="list-style-type: none"> ● Reviewing puppet effectiveness (movement and appeal). ● Testing and adjusting lever mechanisms for smooth operation. ● Comparing completed Tudor houses for accuracy and sturdiness. ● Tasting and evaluating pizza based on ingredients and preferences.
<p>Extended Skills and Vocabulary</p> <ul style="list-style-type: none"> ● Use checklists or structured prompts to support evaluation. ● Use words such as effectiveness, adjust, review, and functionality. ● Begin to link evaluation with improvements for future work. ● Identify specific strengths and weaknesses using given criteria. 			

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4. Technical knowledge			
Core knowledge	Core skills	Core vocabulary	Taught through
<ul style="list-style-type: none"> ● Understand that sliders and levers create movement through pivoting and sliding parts. ● Know that different structures require supports to be stable and strong. ● Recognize simple properties of materials (e.g., absorbent, flexible, stiff). ● Learn basic nutritional knowledge, including food groups and balanced meals. ● Build structures, exploring how they can be made stronger, stiffer and more stable; understand and apply the principles of a healthy and varied diet. ● Explore and use mechanisms e.g. levers, sliders, wheels and axles in their products. 	<ul style="list-style-type: none"> ● Identify and choose materials based on how they behave (e.g., bendy for moving parts, stiff for walls). ● Explore and use sliders, levers, wheels, axles and axle holders. ● Learn to use hand tools safely and appropriately. ● Start to assemble, join and combine materials in order to make a product. ● With help measure, cut and score with some accuracy. ● Create simple moving mechanisms using levers and sliders. ● Build structures with support elements to increase strength and stability. ● Sort and select materials based on their properties. ● Group foods by type and design a healthy combination. ● Begin to understand how ingredient combinations affect texture and flavour 	<ul style="list-style-type: none"> ● axle ● wheel ● pulley ● rotate ● mechanism ● structure ● stable ● bendy ● healthy ● balanced ● ingredient ● lever ● slider ● pivot ● movement ● absorbent ● flexible ● texture 	<ul style="list-style-type: none"> ● Building lever mechanisms in card-based storytelling or display. ● Constructing stable Tudor-style buildings with cardboard and tabs. ● Exploring different materials for properties before selecting for use. ● Creating healthy pizzas while discussing balance across food groups and ingredient combinations.
<p>Extended Skills and Vocabulary</p> <ul style="list-style-type: none"> ● Use terms like reinforce, absorb, mechanical, nutritional, and balanced. ● Begin to explain how simple mechanical parts interact. ● Discuss how food combinations meet dietary needs. ● Explain how a mechanism works ● Predict how changing materials or construction might affect strength or movement ● Identify everyday products that use similar structures or mechanisms. 			