



Year 1

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 ONE

1. Designing			
Core knowledge	Core skills	Core vocabulary	Taught through
<ul style="list-style-type: none"> ● Generate ideas based on simple design criteria and their own experiences, explaining what they could make. ● Begin to understand the concepts of form (what it looks like) and function (what it does). ● Know how to make freestanding structures stronger, stiffer and more stable. ● Understand that products are made for specific users and purposes (e.g., a toy must be fun and safe). ● Generate ideas based on simple design criteria and their own experiences, explaining what they could make. ● Learn that design choices affect how well a product works and what materials may be most suitable. ● Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. ● Communicate these ideas through talk and drawings. ● Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of the eat well plate. ● Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. 	<ul style="list-style-type: none"> ● Develop, model and communicate their ideas through talking, mock-ups and drawings. ● Design a functional and appealing product for a chosen user and purpose based on simple design criteria. ● Know and use technical vocabulary relevant to the project ● Make basic material and shape choices with support, based on the intended function. Model ideas using construction kits or scrap materials before final making. ● Draw, colour, and label basic design ideas. 	<ul style="list-style-type: none"> ● design ● purpose ● user ● form ● brief ● research ● function ● plan ● sketch ● label ● material ● communicate ● suitable ● model ● idea ● criteria 	<ul style="list-style-type: none"> ● Designing a pulley toy that moves up and down with a clear user in mind. ● Sketching and planning a castle with a drawbridge, discussing what materials will be best. ● Creating a design for a healthy snack, considering what foods are liked and what is nutritious.
<p>Extended Skills and Vocabulary</p> <ul style="list-style-type: none"> ● Describe what their products are for ● Use Key vocabulary when they are describe their products ● Verbalise how their products will work ● Verbalise how they will make their products suitable for their intended users. 			

DESIGN & TECHNOLOGY: CORE STUDY FOR YEAR ONE

2. Making			
Core knowledge	Core skills	Core vocabulary	Taught through
<ul style="list-style-type: none"> ● Plan by suggesting what to do next. ● Recognize a variety of basic tools and how they are used (e.g., scissors for cutting, glue stick for joining). ● Select and use tools, explaining their choices, to cut, shape and join paper and card. ● Understand the importance of tool safety and good hygiene, especially in food preparation. ● Know that materials behave in different ways (e.g., card can fold, plastic is bendy). ● Understand that different mechanisms produce different types of movement. ● Know and use technical vocabulary relevant to the project. ● Be aware that different joining techniques work better with certain materials. 	<ul style="list-style-type: none"> ● Select and use tools, skills and techniques, explaining their choices to perform practical tasks such as marking out, cutting, joining and finishing to allow movement. ● Select new and reclaimed materials and construction kits to build their structures. ● Use simple finishing techniques suitable for the structure they are creating. ● Select from and use textiles according to their characteristics and components such as paper, card, plastic and wood ● Use simple utensils and equipment to peel, cut, slice, squeeze, grate and chop safely. ● Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. ● Follow basic safety and hygiene rules during food preparation (e.g., washing hands, using clean utensils) ● Explore and use sliders and levers. ● Explore and use wheels, axles and axle holders. 	<ul style="list-style-type: none"> ● cut ● join ● fold ● glue ● tape ● attach ● tool ● handle ● safe ● hygiene ● wash ● mix ● measure ● material ● stable 	<ul style="list-style-type: none"> ● Constructing pulley toys, carefully cutting and joining parts with axles and wheels. ● Building model castles using card and found materials, strengthening joins and stabilizing structures. ● Preparing a healthy snack, using safe tools to cut, slice, and assemble fruit or sandwich items.
<p>Extended Skills and Vocabulary</p> <ul style="list-style-type: none"> ● Be able to explain their choices ● 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. 			

DESIGN & TECHNOLOGY: CORE STUDY FOR YEAR ONE

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). ● Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. ● Know that checking and testing helps improve a product. ● Know and use technical vocabulary relevant to the project. ● Taste and evaluate a range of fruit and vegetables to determine the intended user’s preferences. ● Explore a range of existing books and everyday products that use simple sliders and levers. ● Explore and evaluate a range of products with wheels and axles. ● Learn to reflect on their own work and accept suggestions for improvement ● Recognize that materials or methods can be changed to make a product better. 	<ul style="list-style-type: none"> ● Talk about what works well and what could be improved. ● 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 ● Use a checklist or design criteria to see if their product meets the goal (e.g., “Does the drawbridge open?”). ● 	<ul style="list-style-type: none"> ● evaluate ● test ● improve ● fix ● better ● feedback ● change ● improve ● successful 	<ul style="list-style-type: none"> ● Testing pulley toys to ensure the mechanism moves smoothly and adjusting the axle or string length. ● Evaluating castle models to see if the drawbridge opens/closes and if the walls stand up properly. ● Tasting and evaluating snacks, using basic sensory vocabulary to describe what they like or would change.
<p>Extended Skills and Vocabulary</p> <ul style="list-style-type: none"> ● Suggest multiple improvements and justify choices. ● Compare own work thoughtfully with that of peers or real-life products. ● Record evaluations using drawings, diagrams or simple writing. ● Identify specific strengths and weaknesses using given criteria. 			

DESIGN & TECHNOLOGY: CORE STUDY FOR YEAR ONE

4. Technical knowledge			
Core knowledge	Core skills	Core vocabulary	Taught through
<ul style="list-style-type: none"> ● Know how to make freestanding structures stronger, stiffer and more stable. ● Know and use technical vocabulary relevant to the project. ● Understand that different materials have different properties (e.g., stiff, flexible, waterproof) ● Learn how axles, wheels, and pulleys are used to make things move or lift. ● Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. ● Understand that different mechanisms produce different types of movement. ● Know how to name and sort foods into the five groups in the eat well plate ● Understand that everyone should eat at least five portions of fruit and vegetables every day 	<ul style="list-style-type: none"> ● Construct simple mechanical systems using paper, card, wheels, and pulleys with support. ● Distinguish between fixed and freely moving axles. ● Identify and choose materials based on how they behave (e.g., bendy for moving parts, stiff for walls). ● Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of the eat well plate. ● Explore and use sliders and levers. ● Explore and use wheels, axles and axle holders. 	<ul style="list-style-type: none"> ● axle ● wheel ● pulley ● rotate ● move ● mechanism ● structure ● stable ● stiff ● bendy ● healthy ● balanced ● ingredient 	<ul style="list-style-type: none"> ● Exploring and constructing pulley toys with rotating wheels and string systems. ● Making a castle structure with a functioning drawbridge, understanding what makes it strong. ● Preparing a balanced snack, discussing how fruits, grains, and proteins contribute to health.
<p>Extended Skills and Vocabulary</p> <ul style="list-style-type: none"> ● Explain in simple terms how a mechanism works (e.g., "The pulley lifts the load") ● Predict how changing materials or construction might affect strength or movement ● Identify everyday products that use similar structures or mechanisms. 			