



DESIGN & TECHNOLOGY

Design it. Make it. Improve it.

CREATING SOLUTIONS. SHAPING THE FUTURE.

Design and Technology inspires children to be creative problem solvers who design and make products that have purpose and meaning. Through an iterative process of designing, making, evaluating and improving, children develop practical skills, resilience and innovation to succeed in an ever-changing world.



LEADERSHIP



ORGANISATION



RESILIENCE



INITIATIVE



COMMUNICATION



KINDNESS

• OUR DT GOLDEN THREADS •



MECHANISMS AND MOVEMENT

Understanding how things move and using mechanisms to create movement in purposeful products.



TEXTILES

Exploring and using textile materials and techniques to design and make functional and decorative products.



FOOD

Preparing and cooking food, understanding nutrition and making healthy choices.



STRUCTURES

Designing and building strong, stable structures for a range of purposes and users.



THINK CREATIVELY • WORK SKILLFULLY • EVALUATE CAREFULLY • IMPROVE CONFIDENTLY



Year 5 Design and technology Medium Term plans

<u>Year 5</u>	<u>WW1 Patches of Honour</u>	<u>Ancient Greece Greek Kitchen</u>	<u>The Plague Pest House Architects</u>
Prior learning	• Can investigate and evaluate textile products. • Can develop design criteria for a purpose and user. • Can use a range of sewing techniques to join materials. • Can evaluate and improve a finished product.	• Knows the principles of a healthy and varied diet. • Understands that seasonality affects food choices. • Can prepare and cook food safely using a range of techniques. • Can design and evaluate a food product for a purpose.	• Can communicate ideas using annotated sketches and prototypes. • Can develop design criteria from research. • Can design a product for a purpose and user. • Can evaluate and improve a finished design.
Year 5	Topic: Textiles – WW1 commemorative armband, medal holder, remembrance pouch or mini satchel Enquiry Question How can we design and make a textile product inspired by WW1?	Topic: Food – Greek Kitchen Enquiry Question: How can we design and prepare a healthy Greek-inspired savoury dish?	Topic: Digital – Pest House Architects Enquiry Question: How can we use computer-aided design (CAD) to design a functional pest house inspired by buildings from the time of the Plague?
Explore 1	WALT: investigate WW1 textile products and their purpose. Children: • Explore WW1 uniform patches, badges and textile products, WW1 commemorative armband, medal holder, remembrance pouch or mini satchel. • Investigate who used them and why. • Identify key features and materials. • Consider the needs of different users. Skills: • Investigates existing products. • Identifies product features. • Understands user needs.	WALT: investigate Ancient Greek food and understand the principles of a healthy and varied diet. Children: • Explore foods commonly eaten in Ancient Greece. • Investigate ingredients used in Greek cooking. • Discuss the principles of a healthy and varied diet. • Compare Ancient Greek and modern diets. Skills: • Investigates food products. • Identifies healthy food choices. • Makes links between food and culture. Vocabulary:	WALT: understand how architects communicate ideas using CAD. Children: • Explore examples of architectural drawings and CAD models. • Discuss how CAD enables designers to communicate and develop ideas. Skills: • Evaluates existing structures. • Identifies architectural features. • Makes links between design and purpose. • Explores how CAD supports the design process. Vocabulary:

	Vocabulary: textiles, patch, badge, uniform, purpose, user	nutrition, healthy diet, ingredients, Ancient Greece, balanced diet	pest house, quarantine, architecture, CAD, floor plan, elevation, design, purpose, structure
Design 1	WALT: investigate and evaluate existing textile products. Children: • Explore historical and modern textile products. • Compare materials and construction methods. • Investigate joining techniques. • Evaluate products for purpose and function. Skills: • Evaluates products. • Analyses construction methods. • Identifies suitable materials. Vocabulary: fabric, construction, joining, function, evaluate	WALT: investigate and evaluate existing savoury dishes. Children: • Explore a range of Greek and modern savoury dishes. • Analyse ingredients and preparation methods. • Discuss flavour, texture and appearance. • Consider the role of seasonality. Skills: • Evaluates food products. • Analyses ingredients and preparation methods. • Identifies product features. Vocabulary: savoury, ingredients, flavour, seasonality, evaluate	WALT: investigate how architects develop design criteria using historical research. Children: • Research buildings from the Plague era. • Consider the needs of patients, carers and local communities. • Develop design criteria for a functional pest house. • Explore how architects plan before construction. Skills: • Investigates user needs. • Develops design criteria. • Uses research to inform decisions Vocabulary: criteria, user, purpose, function, architect, design specification
Make 1	WALT: develop design criteria for a WW1-inspired textile product. Children: • Research user needs. • Develop design criteria. • Generate ideas. • Consider function and appearance. Skills: • Develops design criteria. • Uses research effectively. • Generates ideas.	WALT: develop design criteria for a Greek-inspired savoury dish. Children: • Research ingredients and recipes. • Consider the needs and preferences of users. • Develop design criteria. • Generate ideas for a healthy savoury dish. Skills: • Develops design criteria. • Uses research to inform decisions. • Generates ideas.	WALT: develop a digital floor plan for a plague pest house using CAD. Children: • Produce a scaled floor plan using CAD software. • Position rooms appropriately. • Label key features. • Use measurements accurately. • Review and improve layouts. Skills:

	Vocabulary: criteria, function, appearance, purpose, design	Vocabulary: criteria, user, purpose, nutrition, design	• Uses CAD software confidently. • Applies accurate measurements. • Produces clear digital plans. Vocabulary: CAD, floor plan, scale, dimensions, measurement, layout
Make 2	WALT: communicate ideas through annotated sketches. Children: • Create annotated designs. • Label materials and joining methods. • Refine ideas. • Justify design decisions. Skills: • Communicates ideas clearly. • Uses annotated sketches. • Refines designs. Vocabulary: annotate, sketch, refine, materials, design	WALT: communicate ideas using annotated diagrams and recipes. Children: • Create annotated diagrams of their dish. • Plan ingredients and preparation methods. • Explain how the dish meets design criteria. • Refine ideas through discussion. Skills: • Communicates ideas clearly. • Uses annotated diagrams. • Refines designs. Vocabulary: annotate, recipe, preparation, ingredients, refine	WALT: create a three-dimensional CAD model of a plague pest house. Children: • Build a 3D digital model. • Add walls, windows, roofs and doors. • Include internal rooms. • Use CAD tools to resize, align, duplicate and group objects. • Refine the model throughout the design process. Skills: • Creates accurate CAD models. • Selects appropriate digital tools. • Refines digital designs. Vocabulary: 3D model, align, duplicate, group, resize, manipulate, modify, digital model
Make 3	WALT: create a WW1-inspired textile product using sewing techniques. Children: • Select suitable materials. • Practise and apply running stitch, back stitch and appliqué. • Construct their product. • Finish work carefully and accurately.	WALT: prepare and cook a Greek-inspired savoury dish safely and hygienically. Children: • Select ingredients appropriately. • Apply a range of food preparation techniques. • Follow recipes and design plans. • Cook and present a finished dish.	WALT: refine and communicate a final CAD design. Children: • Improve their CAD model using peer feedback. • Annotate key architectural features. • Explain how the design meets the needs of users. • Present their completed digital design. Skills:

	Add: Pattern pieces Fastenings (buttons, Velcro, poppers) Combining fabrics Decorative techniques such as embroidery Skills: • Uses sewing techniques accurately. • Selects suitable materials. • Produces a quality textile product. Vocabulary: running stitch, back stitch, appliqué, seam, finish	Skills: • Uses tools safely. • Applies cooking techniques accurately. • Produces a finished food product. Vocabulary: prepare, cook, hygiene, technique, presentation	• Evaluates and refines digital designs. • Communicates ideas effectively. • Presents work confidently. Vocabulary: annotate, refine, presentation, evaluation, feedback, communicate
Reflect 1	WALT: evaluate a textile product against design criteria. Children: • Compare finished products with original designs. • Gather peer feedback. • Evaluate function and appearance. • Suggest improvements. Skills: • Evaluates products. • Uses feedback effectively. • Reflects on design decisions. Vocabulary: evaluate, feedback, criteria, improve, quality	WALT: evaluate a Greek-inspired savoury dish against design criteria. Children: • Taste and evaluate finished dishes. • Gather peer feedback. • Compare products with original designs. • Suggest improvements. Skills: • Evaluates products. • Uses feedback effectively. • Reflects on design decisions. Vocabulary: evaluate, feedback, criteria, improve, successful	WALT: evaluate a CAD design against design criteria. Children: • Compare their final design with their original specification. • Gather peer feedback. • Evaluate functionality and historical accuracy. • Suggest improvements. Skills: • Evaluates digital products. • Uses feedback effectively. • Reflects on design decisions. Vocabulary: evaluate, criteria, improve, functionality, accuracy, feedback

Assessment	Enquiry Question: How can we design and make a textile product inspired by WW1? Children will demonstrate understanding by: • Investigating textile products. • Developing design criteria. • Using sewing techniques accurately. • Constructing a textile product. • Evaluating a finished design.	Enquiry Question: How can we design and prepare a healthy Greek-inspired savoury dish? Children will demonstrate understanding by: • Understanding the principles of a healthy diet. • Evaluating existing food products. • Developing design criteria. • Preparing and cooking a savoury dish safely. • Evaluating a finished product.	Enquiry Question: How can we use computer-aided design (CAD) to design a functional pest house inspired by buildings from the time of the Plague? Children will demonstrate understanding by: • Investigating historical pest houses. • Developing design criteria. • Producing accurate digital floor plans. • Creating and refining a 3D CAD model. • Evaluating their digital design against design criteria.
End Point	Children design, make and evaluate a WW1 commemorative armband, medal holder, remembrance pouch or mini satchel By the end of this unit, children will understand how textile products are designed for specific users and purposes. They will use a range of sewing techniques to create and evaluate a WW1-inspired textile product.	Children design, prepare and evaluate a healthy Greek-inspired savoury dish using a range of food preparation and cooking techniques. By the end of this unit, children will understand how food products are designed for specific users and purposes. They will understand healthy eating, seasonality and food preparation techniques and will design, make and evaluate a Greek-inspired savoury dish.	Children design, develop and evaluate a CAD model of a plague pest house inspired by historical buildings from the time of the Plague. By the end of this unit, children will understand how architects use computer-aided design to communicate and refine ideas before construction. They will apply historical research to produce a detailed CAD model that meets the needs of its users and evaluate its success against design criteria.
Substantive Knowledge (What children need to remember)	Children will know: • WW1 textile products served practical and symbolic purposes. • Different fabrics have different properties. • Sewing techniques affect strength and appearance. • Design criteria help designers make decisions. • Products are improved through evaluation.	Children will know: • Ancient Greeks ate a diet based on locally available ingredients. • A healthy diet includes a balance of food groups. • Seasonality affects ingredient availability. • Different ingredients contribute different flavours and nutritional benefits. • Food products are designed for specific users and purposes. • Design criteria help designers evaluate success.	Children will know: • Pest houses were built to isolate people during outbreaks of disease. • Historical buildings were designed to meet specific needs. • Architects use CAD to develop, modify and communicate ideas. • Digital models allow designers to test and improve ideas before construction. • Floor plans and elevations communicate different aspects of a design. • Design criteria help designers evaluate success.

Disciplinary Knowledge (Thinking like a designer)	Children will: - Investigate and evaluate products. - Research user needs. - Develop and communicate ideas. - Select appropriate materials. - Use sewing techniques accurately. - Evaluate and improve products.	Children will: - Investigate and evaluate food products. - Research ingredients and recipes. - Develop design criteria. - Plan and communicate ideas. - Prepare and cook food safely. - Evaluate and improve products.	Children will: - Investigate historical architecture. - Research user needs. - Develop design criteria. - Create annotated sketches and digital floor plans. - Build and refine CAD models. - Evaluate and improve digital designs.
Adaptive Teaching	Support - Sewing templates. - Visual instructions. - Adult modelling. - Pre-threaded needles. - Vocabulary mats. Challenge - Incorporate multiple sewing techniques. - Create more intricate designs. - Justify material choices. - Suggest multiple improvements.	Support - Recipe templates. - Visual instructions. - Adult modelling. - Pre-measured ingredients where appropriate. - Vocabulary mats. Challenge - Adapt recipes for different users. - Justify ingredient choices using nutritional knowledge. - Consider seasonality and provenance. - Suggest multiple improvements based on evaluation.	Support - CAD templates. - Step-by-step software guides. - Visual examples of historical pest houses. - Vocabulary mats. - Adult modelling. Challenge - Create more complex architectural layouts. - Include interior furnishings. - Justify design decisions using technical vocabulary. - Apply accurate scaling throughout the model. - Suggest multiple improvements following evaluation.
Assessment for Learning	Throughout the unit, teachers will assess understanding through: - Annotated sketches. - Product evaluations. - Observation of sewing techniques. - Discussion and questioning. - Reflection activities.	Throughout the unit, teachers will assess understanding through: - Design diagrams and recipes. - Discussion and questioning. - Observation of food preparation skills. - Product evaluations. - Reflection activities. - Retrieval of key vocabulary and knowledge.	Throughout the unit, teachers will assess understanding through: - Annotated sketches and floor plans. - Observation of CAD skills. - Discussion and questioning. - Saved versions showing design development. - Evaluation activities. - Retrieval of key vocabulary and historical knowledge.

National Curriculum coverage	Pupils should be taught to: • Generate, develop and communicate ideas through annotated sketches. • Select from and use a wider range of materials and components. • Understand and use a range of sewing techniques. • Evaluate products against design criteria.	Pupils should be taught to: • Understand and apply the principles of a healthy and varied diet. • Prepare and cook a variety of predominantly savoury dishes. • Understand seasonality and know where and how a variety of ingredients are grown and processed. • Generate, develop and communicate ideas. • Evaluate existing products and their own ideas and products.	Pupils should be taught to: • Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose. • Generate, develop, model and communicate their ideas through computer-aided design. • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
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DT PROGRESSION TIMELINE EYFS-YEAR 6

Building knowledge, skills and creativity through design, make, evaluate and improve.



OUR JOURNEY	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
EXPLORING & UNDERSTANDING ↓ DESIGNING ↓ MAKING ↓ EVALUATING ↓ EVERY CHILD WILL...	Explore materials, foods and existing products through play and discussion.	Explore a range of products and materials. Talk about how and why things are made.	Explore more complex products and ingredients. Identify features and how they work.	Research products and ingredients in depth. Understand purpose and user.	Investigate how products work and are made. Understand systems and structures.	Analyse products in detail. Consider function, aesthetics, sustainability and user needs.	Investigate, research and question widely. Understand innovation and impact.
	Generate simple ideas and make choices with support. Begin to plan.	Design purposeful products for a specific user using simple design criteria.	Develop ideas and designs. Choose materials and explain choices.	Create detailed plans and sketches with annotations. Use design criteria.	Use research to inform designs. Create prototypes and refine ideas.	Produce detailed designs and plans. Consider function, form and sustainability.	Develop innovative designs with clear purpose. Plan using advanced tools.
	Use tools and materials safely to make simple models and food products.	Make products following a plan. Use a range of tools and materials.	Use tools and techniques to make quality products.	Apply skills and techniques with increasing independence.	Use a wider range of tools and techniques with accuracy.	Work confidently and accurately. Combine techniques and select appropriate materials.	Use advanced techniques and technology to make high-quality products.
	Talk about what they like and dislike. Begin to suggest changes.	Evaluate products against design criteria. Suggest simple improvements.	Evaluate against criteria and user needs. Identify what worked well.	Test and evaluate products. Make improvements based on feedback.	Evaluate function, quality and appearance. Improve designs.	Critically evaluate products. Consider sustainability and impact. Refine ideas.	Evaluate thoroughly and make considered improvements. Reflect on learning.
	Be curious, explore and enjoy using tools and materials safely.	Design and make simple products for a purpose.	Apply skills to create functional and appealing products.	Test their knowledge to solve problems and create quality products.	Design and make products that are fit for purpose and well made.	Work confidently and creatively to design innovative products with purpose.	Become independent, creative problem solvers and critical evaluators.

OUR DT GOLDEN THREADS



MECHANISMS AND MOVEMENT

Understanding how things move and using mechanisms to create purposeful products.



TEXTILES

Exploring and using fabrics and techniques to design and make functional and decorative products.



FOOD

Preparing and cooking a variety of dishes. Understanding nutrition, seasonality and where food comes from.



STRUCTURES

Designing and building strong, stable structures for a range of purposes and users.



THINK CREATIVELY



WORK SKILLFULLY



COMMUNICATE IDEAS



EVALUATE CAREFULLY



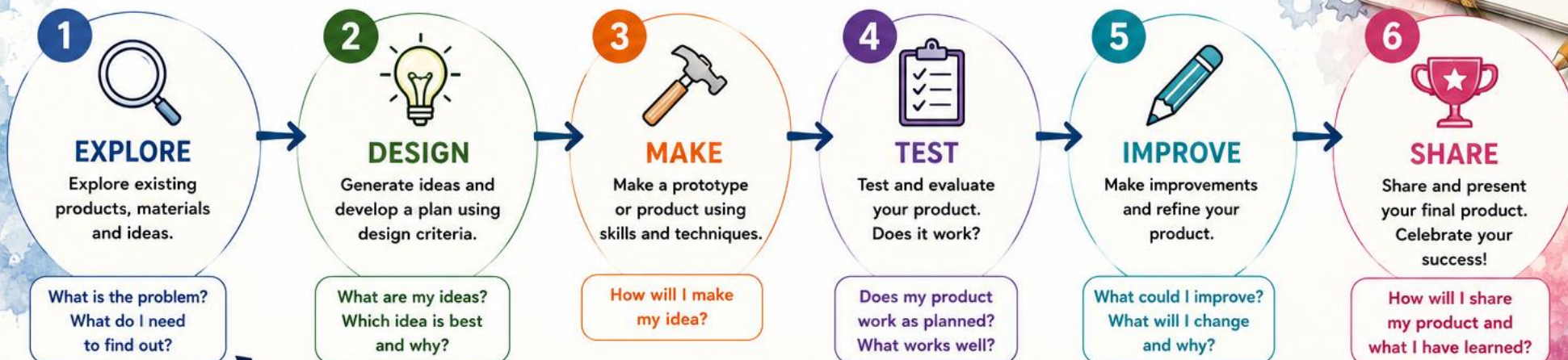
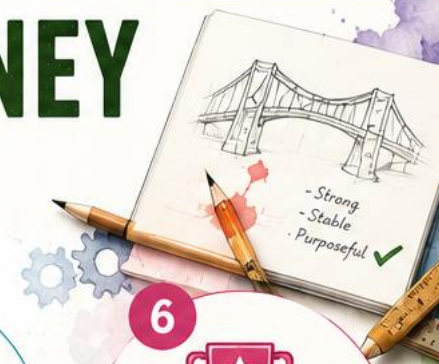
IMPROVE CONFIDENTLY

**DESIGN IT.
MAKE IT.
IMPROVE IT.**

DT DESIGN PROCESS JOURNEY

Design it. Make it. Improve it.

WE ARE DESIGNERS • WE ARE MAKERS • WE SOLVE PROBLEMS



DESIGN IS AN ITERATIVE PROCESS – WE KEEP IMPROVING!



MECHANISMS AND MOVEMENT

Understanding how things move and using mechanisms to create movement in purposeful products.

Examples: levers, linkages, gears, wheels and axles, electrical systems.



TEXTILES

Exploring and using fabrics and techniques to design and make functional and decorative products.

Examples: sewing, stitching, joining, embellishing, finishing.



FOOD

Preparing and cooking a variety of dishes. Understanding nutrition, seasonality and where food comes from.

Examples: cooking techniques, flavour, presentation, hygiene.



STRUCTURES

Designing and building strong, stable structures for a range of purposes and users.

Examples: frameworks, shells, bridges, buildings, 3D forms.

AS DESIGNERS
AND MAKERS
WE...



THINK CREATIVELY

We explore ideas and solve problems.



WORK SKILLFULLY

We use the right tools, materials and techniques.



COMMUNICATE IDEAS

We share our thoughts and listen to others.



EVALUATE CAREFULLY

We look at what works well and what could improve.



IMPROVE CONFIDENTLY

We learn from mistakes and keep improving.



EVERY DESIGN STARTS WITH AN IDEA. EVERY PRODUCT TELLS A STORY. EVERY IMPROVEMENT MAKES US BETTER.

