

HDL: Design Curriculum Overview

Subject Statement

Design and Technology at Woodfield School provides pupils with opportunities to explore, design, make and evaluate products that solve real-world problems. Through practical, hands-on projects, pupils develop creativity, resilience, independence and problem-solving skills whilst learning how products are designed and made.

Our curriculum follows a clear progression from exploring materials and simple construction in the lower school, through to designing for a purpose, meeting the needs of users and evaluating products in upper school. Pupils develop knowledge and skills across structures, mechanisms, textiles and product design, applying these through a range of engaging projects.

Design and Technology encourages pupils to think creatively, take risks, test ideas and learn from mistakes. Through the design process, pupils learn to research, plan, create, evaluate and improve their work. These skills support learning across the curriculum and help prepare pupils for independent living, future employment and vocational pathways.

We aim for all pupils to experience success as designers and makers, developing confidence in their ability to solve problems, work collaboratively and create purposeful products that meet a need.

Class / Cycle	Autumn	Spring	Summer
Orange Cycle 1	- Explore a variety of materials through play and investigation. - Join, stack, roll, tear and manipulate materials. - Use simple tools safely with adult support. - Build and create using a range of construction materials. - Explore how things move through pushing, pulling and rolling. - Begin to talk about what they have made.		
Orange Cycle 2	- Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling. - Investigate strengthening sheet materials. - Demonstrate a range of joining techniques such as gluing or taping.		
Cherry Cycle 1	Make simple products Follow simple design instructions with support, investigate how everyday products work. Use templates to mark out materials. Cut, fold and join materials safely. Explore simple mechanisms such as sliders, levers, wheels and axles. Select materials for a purpose.		



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	Projects <i>Junk Model Homes</i> <i>Moving Pictures (sliders)</i> <i>Build a Vehicle</i>		
Cherry Cycle 2	Make simple products Follow simple design instructions with support, investigate how everyday products work. Use templates to mark out materials. Cut, fold and join materials safely. Explore simple mechanisms such as sliders, levers, wheels and axles. Select materials for a purpose. Talk about what they like or would change about a product. Projects - Puppets - Bridges and Towers - Playground Models		
Conker Cycle 1	Design and Test Investigate existing products and identify their purpose. Generate simple design ideas through drawing and discussion. Measure, mark out and cut materials with increasing accuracy. Use a range of joining and strengthening techniques. Construct products using structures, textiles and mechanisms. Test products and identify strengths and weaknesses. Modify designs following testing and evaluation.		
	Pop-Up Greeting Cards - Sliders - Levers - Folds	Mini Greenhouse - Structures - Stability - Materials	Bird Feeders - Design - Construction - Evaluation
Conker Cycle 2	Desk Tidy - Measuring - Joining - Strengthening	Moving Monster - Linkages - Pivots - Mechanisms	Fabric Bookmark - Running stitch - Decoration - Templates
Oak Cycle 1	Refine and Improve Research products and explain how they meet users' needs. Produce labelled design ideas. Select suitable materials and tools for a task. Apply techniques accurately when constructing products. Understand how structures can be strengthened and stabilised. Use simple electrical components and mechanical systems. Evaluate products against design criteria and suggest improvements.		
	Strong Bridges	Drawstring Bag	Protective Packaging Challenge

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			Design packaging that protects an object when dropped.
Oak Cycle 2	Light-Up Sign	Moving Fairground Ride	Reusable Shopping Bag
Maple Cycle 1	Design for a User Investigate products from the viewpoint of the user. Undertake research through observation, surveys and discussion. Develop design ideas that meet a specific need or brief. Select appropriate materials based on function and appearance. Create prototypes and test them against success criteria. Adapt designs in response to feedback. Communicate ideas using sketches, labels and models.		
	Assistive Product Design Design something that helps somebody.	Mechanical Toy Cams and linkages.	Board Game Design • Design a game • Create pieces • Test with others • Improve rules
Maple Cycle 2	Sustainable Packaging	Wearable Textiles	Emergency Shelter Challenge Design a shelter for: • flood • snow • camping • disaster relief
Palm Cycle 1	Problem Solving and Innovation Analyse design problems and identify possible solutions. Research how designers and engineers solve real-world problems. Develop and present multiple design ideas. Consider function, sustainability and user needs when designing. Produce prototypes using a range of materials and techniques. Evaluate products critically and justify design decisions. Apply the design process independently: research, design, make, test and improve.		
	Sustainable Packaging	Community Garden Product Planter, bird feeder, sign or seating model	Emergency Shelter Challenge Design a shelter for: • flood • snow • camping • disaster relief
Palm Cycle 2	Upcycling Project	Enterprise Product	Final Design Challenge

		Design, make, price, sell/evaluate	Brief, research, prototype, test, present
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