



Long Whatton C of E Curriculum Road Map Design and Technology

Key Skills:



Master Practical Skills



Take inspiration from design



Design, make, evaluate & improve



Creating with materials

Safely use and explore a variety of materials, tools and techniques. Experiment with colour, design, texture, form, function and purpose. Share their creations, explaining the process they have used. Use a range of small tools including scissors. Collaboratively, share ideas, resources and skills.



Cycle A - Childhood

Shade and shelter - structures

Understand the purpose of a shelter, identifying different types and being able to collaboratively describe them. Identify different materials that could be used to build their own shelter, exploring how they can be made stronger, water and weather resistant. Demonstrate a range of joining techniques and evaluate their completed product. Forest school experience



Cycle A - Bright lights, Big City

Taxi - mechanisms and vehicles

Explore and use simple mechanisms including wheels, axels and chassis and explain how they work. Measure, mark out and cut materials safely. Select from a range of materials and components. Use components and mechanisms to design



Cycle A - School Days

Chop, slice, mash - Cooking and nutrition

Learn preparatory skills of peeling, tearing, slicing, chopping, mashing and grating. Use knowledge and technique to design and make a sandwich based on specific design criteria. Select appropriate tools.



Cycle B - Movers and Shakers

Remarkable recipes - Cooking and nutrition

Use the basic principles of a healthy and varied diet to prepare dishes. Explore a range of existing products and identify likes and dislikes. Choose and make a new meal that fulfils specific design and nutrition criteria.

Cycle B - Coastline

Beach hut - structures

Understand and explore how to make and strengthen a structure including different ways of joining. Safely use a range of tools including a hand saw. Measure with increasing accuracy using a ruler or measuring tape. Evaluate and discuss own and peers work.



Cycle B - Magnificent Monarchs

Cut, stitch and join - Textiles

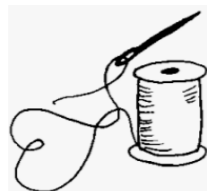
Understand the simple working characteristics of materials and components. Learn about sewing patterns and how to use a running stitch and embellishments. Use taught techniques to create a sewn bag tag. Research significant brands for inspiration such as Cath Kidston.



Cycle A - Misty Mountain, Winding River

Functional and fancy fabrics - Textiles

Research home furnishings and significant designers including William Morris. Learn techniques for decorating fabrics including block printing, hemming and embroidery and use them to design and make a fabric sample. Know that materials have functional properties and aesthetic qualities. Select the most appropriate technique to decorate textiles and evaluate.



Cycle A - Through the Ages

Cook well, eat well - Cooking and nutrition

Identify food groups and their nutritional properties. Explore different methods of cooking vegetables. Design and make a taco filling which meets specific design criteria. Measure ingredients accurately. Evaluate products against the design criteria and consider other's views to improve work.



Cycle A - Emperors and Empires

Greenhouse - Structures

Understand the purpose, structure and design features of greenhouses and compare the work of two significant greenhouse designers. Learn techniques to strengthen structures and use tools safely. Utilise taught skills and knowledge to design and construct their own mini greenhouse.



Cycle B - Invasion

Fresh food, good food - Cooking and nutrition

Understand food decay and preservation. Research and discover key inventions in food preservation and packaging. Make preservation and packaging prototypes. Prepare package and evaluate a healthy snack.

Cycle B - Rocks, relics and rumbles

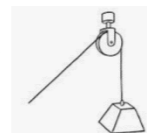
Making it move - Mechanisms

Understand and research cam mechanisms. Experiment with different shaped cams before designing, making and evaluating an innovative child's automaton toy. Convert rotary motion to linear using cams. Develop a range of practical skills, cutting materials with precision and refining the finish to ensure it is of high quality.

Cycle B - Ancient Civilisations

Tomb builders - Mechanisms

Research simple machines including wheels, axels, inclined planes, pulleys and levers, exploring how they helped ancient builders to lift and move heavy loads. Use scientific knowledge of the transference of forces to choose an appropriate mechanism. Identify and research great designers in the area of study.



Cycle A - Dynamic Dynasties

Moving Mechanisms - Mechanisms

Learn and understand pneumatic systems. Experiment with pneumatics before designing, making and evaluating a pneumatic machine that performs a useful function.

Cycle A - Sow, grow and farm

Eat the seasons - Cooking and nutrition

Learn and understand the meaning and benefits of seasonal eating including food preparation and cooking techniques. Know where and how a variety of ingredients are grown, reared, caught and processed. Understand the importance of correct storage and handling of ingredients.



Cycle A - Ground breaking

Greeks

Architecture - Structures

Research how architectural style and technology has developed over time, then use this knowledge to design a building with specific features. Make products through a series of prototypes, combine elements of design, from a range of inspirational designers throughout history.

Cycle B - Maafa

Food for Life - Cooking and nutrition

Identify processed food and healthy food choices and make comparisons. Make bread and pasta sauces, learning about the benefits of whole foods. Plan and make meals as part of a healthy daily menu and evaluate completed products. Measure accurately and calculate ratios of ingredients to scale up or down a recipe.

Cycle B - Britain at War

Make do and mend - Textiles

Use a range of simple sewing stitches including ways of recycling and repurposing old clothes and materials. Use the qualities of materials to create visual and tactile effects. Cut materials with precision and ensure the product has a quality finish.

Cycle B - Frozen Kingdom

Engineer - Structures

Research remarkable engineers and significant bridges, learning to identify features such as beams, arches and trusses. Complete a bridge building, engineering challenge to create a bridge prototype. Apply understanding of how to strengthen, stiffen and reinforce more complex structures.

