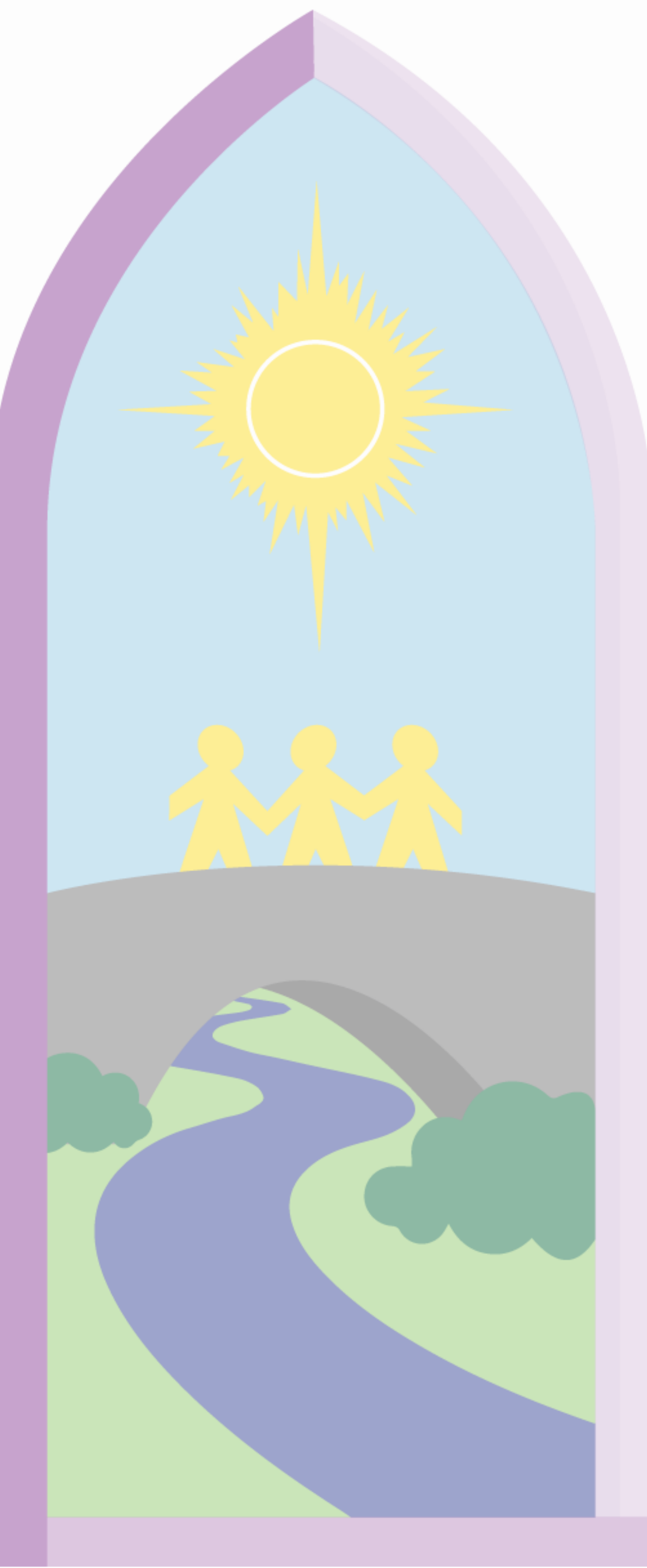




Design Technology Curriculum Flow

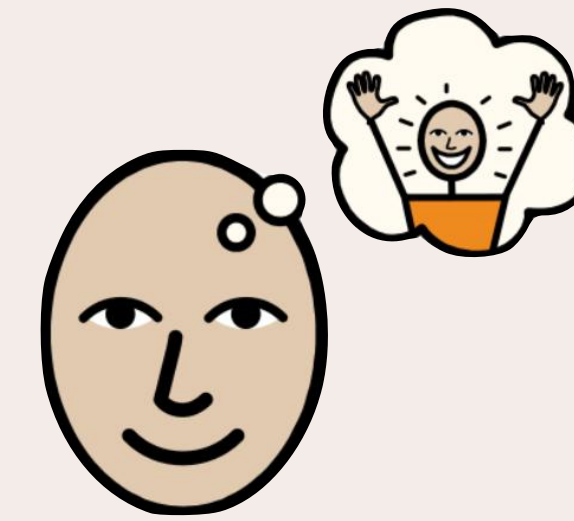
Curriculum Drivers



Aspiration



Community



Creativity



Language and
communication

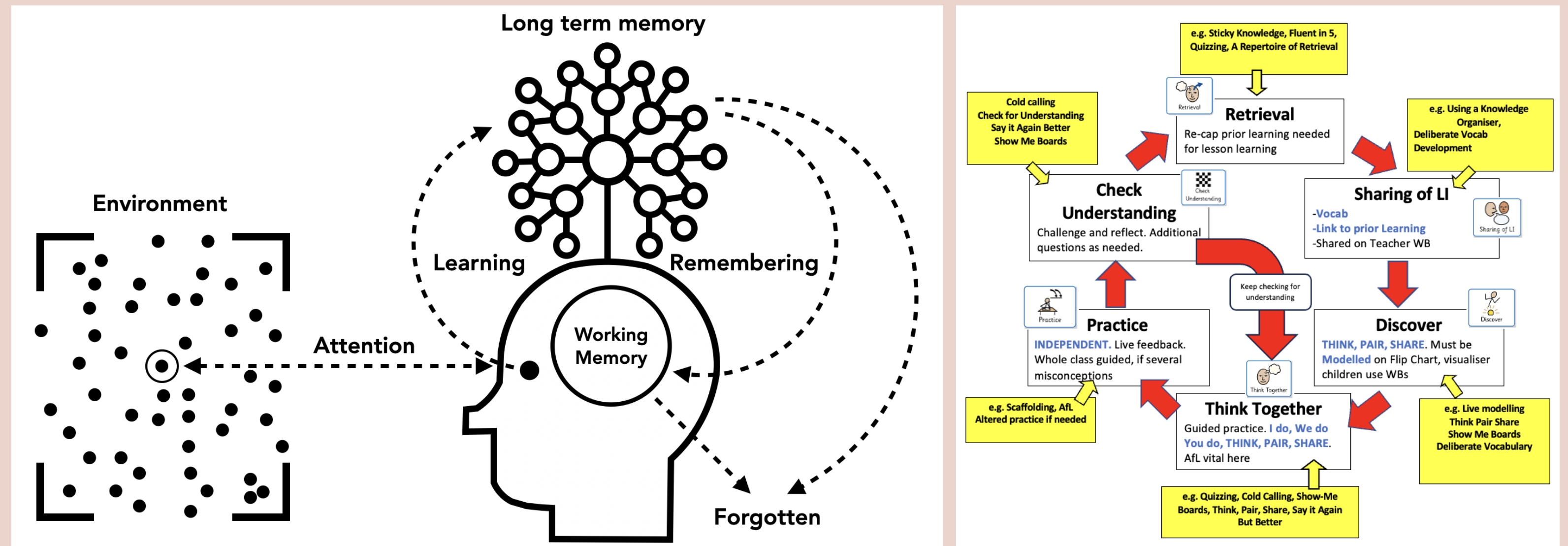


Curriculum Drivers

At Marden Vale we believe that our curriculum should offer not only the national curriculum but life skills and experiences beyond this. When designing our curriculum, we took into account the needs of our learners and community, our vision and values, and the location of our school. These curriculum drivers are used to underpin the development work we undertake in all areas of school life and to ensure our curriculum offer is enriched and personalised to our children and their families.

Our four key drivers are
Aspiration, Community,
Creativity and Language and
Communication.

Learning model and lesson design



Tom Sherrington's learning model underpins our teaching and learning by ensuring that lessons are well-sequenced and structured with clear learning intentions. We prioritise active student engagement, regular retrieval practice and high-quality feedback, allowing students to consolidate and retain knowledge effectively. The model supports teachers in assessing progress through formative assessment and adapting teaching to meet individual needs. A focus on delivering lessons with optimal cognitive load and promoting independent learning, helps students develop a deep understanding of the curriculum and the skills necessary for lifelong learning.

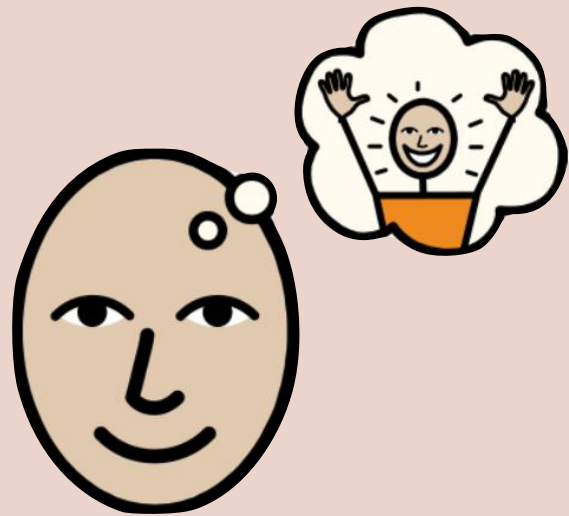
Aspiration Providing children with ideas, inspiration and confidence to work through the creative process to design and create an end product.



Community Providing opportunities to explore the purpose of design out in the community, Develops discussion and interaction and reflects the whole community values. It allows children the opportunity to work with and appraise each other's work.



Creativity Providing a broad and balanced DT curriculum that is reflective of the changes in design and purpose of design. Enable children to feel confident in the experimentation of design from exploring the work of designers from a wide range of designing purposes.



Language and communication Enabling children to have the understanding and vocabulary to express ideas and understand the propose behind the activities that they are presented with.



Intent:

At Marden Vale, the intent of our Design Technology curriculum is to design a curriculum, which is inclusive to all learners through planning a progressing scheme that will support and build on previously acquired knowledge and skills. Children will know more, remember more and understand more. Our school vision and curriculum drivers underpin this.

As a school we use Kapow to support our teaching of Design Technology. This scheme of work aims to inspire pupils to be innovation and creative thinkers who have an appreciation for the product design cycle through the formation of ideas,, creation and evaluation whilst developing their technical skills. We want pupils to develop the confidence to take risks through drafting design concepts, modelling, and testing and to be reflective learners, who evaluate their work and the work of others.

Our Design Technology progression allows the children to experience design, making, evaluating and technical knowledge through the concepts of: textiles, structures, cooking and nutrition,, mechanisms, digital world (KS2 only) and electrical systems (KS2 only).

Implementation

In EYFS our DT curriculum stems from the ELGs and the opportunities we provide to our foundation stage children. In EYFS the children have plenty of opportunities to explore materials and the world around them. They begin to use a range of tools as part of their physical development. Children start to understand the design and make process.

From KS1 the Design and Technology national curriculum outlines the three main stages of the design process: design, make and evaluate (along with technical skills). Each stage of the design process is underpinned by technical knowledge which encompasses the contextual and technical understanding required for each strand. Cooking and nutrition has a separate section, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality.

By using Kapow we are following a spiral curriculum so that key areas are visited again and again, with increased complexity, allowing pupils to revisit and build on their previous learning.

DT is taught bi-termly focusing on the DT project that term either weekly, in blocks or through DT days.. Additional concepts are taught through DT days.

By organising DT this way in allows pupils to experience the whole design process from start to finish. The lessons incorporate a range of teaching strategies from independent tasks, paired and group work, including hands-on, computer based and inventive tasks. Knowledge organisers are used for each unit to support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary. A range of skills will be taught ensuring that children are aware of health and safety issues related to the tasks undertaken.

Evidence of DT learning is collated in DT folders.. There are opportunities for wider application of DT including after-school clubs and planned opportunities across the curriculum.

Impact

The impact of our curriculum is monitored through unit entry and unit exit quizzes as well as evaluations of final products. Teachers will assess through the knowledge stated in the unit overviews and the knowledge organiser for the project.

Design Technology at Marden Vale

Early learning goals and National Curriculum

EYFS

Expressive Arts & Design:
Creating with Materials

- Safely use & explore a variety of materials, tools & techniques, experimenting with colour, design, texture, form & function
- Share their creations, explaining the process they used.

KS1

- Design purposeful, functional, appealing products for themselves and other users based on design criteria
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology
- Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
- Explore and evaluate a range of existing products
- Evaluate their ideas and products against design criteria
- Build structures, exploring how they can be made stronger, stiffer and more stable
- Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products
- Use the basic principles of a healthy and varied diet to prepare dishes
- Understand where food comes from.

KS2

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
- Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
- Investigate and analyse a range of existing products
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- Understand how key events and individuals in design and technology have helped shape the world
- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- Apply their understanding of computing to program, monitor and control their products.
- Understand and apply the principles of a healthy and varied diet
- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Our Big Ideas that link the learning

Textiles

Structures

Cooking and Nutrition

Mechanisms and mechanical systems

Digital World

Electrical systems

KAPOW Programme
Second Order
Concepts

Design

Make

Evaluate

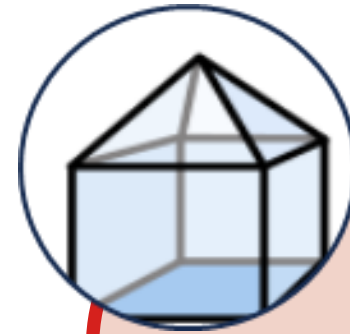
Technical skills

Our Big Ideas



Textiles

Fastening, sewing, decorative and functional fabric techniques including cross stitch, blanket stitch and appliqué.



Structures

Material functional and aesthetic properties, strength and stability, stiffen and reinforce structures.



Cooking and nutrition

Where food comes from, balanced diet, preparation and cooking skills. Kitchen hygiene and safety. Following recipes.



Mechanisms and mechanical systems

Mimic natural movements using mechanisms such as cams, followers, levers and sliders.



Digital world

Program products to monitor and control, develop designs and virtual models using 2D and 3D CAD software.

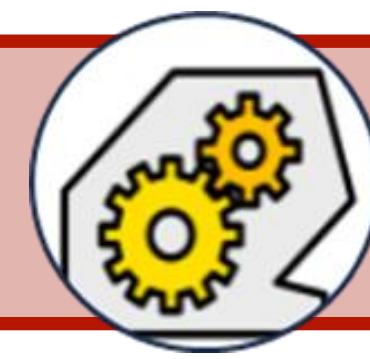
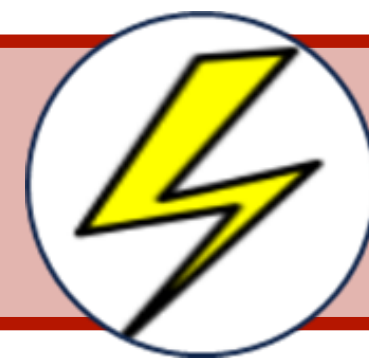


Electrical systems

Operational series circuits, circuit components, circuit diagrams and symbols, combined to create various electrical products.

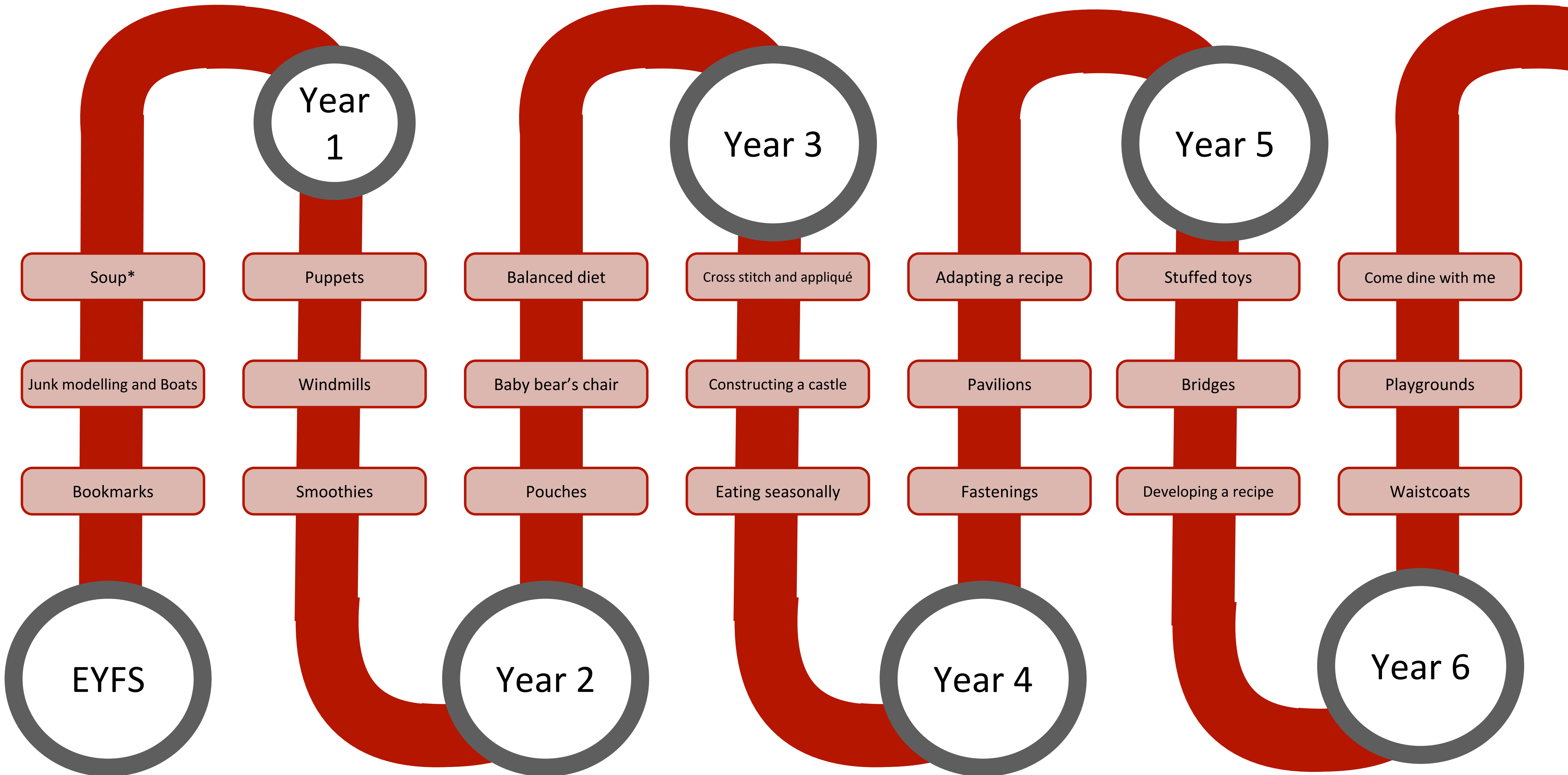


Design Technology Curriculum Overview



	Term 1	Term 2 	Term 3	Term 4 	Term 5	Term 6 	Additional units to be taught through the year 	Additional units to be taught through the year 	Additional units to be taught through the year 
EYFS		Textiles: Bookmarks		Structures: Junk modelling/Boats		Cooking and Nutrition: Soup* completed in Term 1			
Year 1		Textiles: Puppets		Structures: Constructing windmills		Cooking and Nutrition: Smoothies	Mechanisms: Wheels and axels		
Year 2		Textiles: Pouches		Structures: Baby bear's chair		Cooking and Nutrition: Balanced diet (wraps)	Mechanisms: Fairground wheel		
Year 3		Textiles: Cross stitch and appliqué		Structures: Constructing a castle		Cooking and Nutrition: Eating seasonally (seasonal tart)	Mechanisms and mechanical structures: Mechanical cars	Digital world: Wearable technology	
Year 4		Textiles: Fastenings (book cover)		Structures: Pavilions		Cooking and Nutrition: Adapting a recipe	Mechanisms and mechanical structures: Making a slingshot car		Electrical systems: Torches
Year 5		Textiles: Stuffed toys		Structures: Bridges		Cooking and Nutrition: Developing a recipe	Mechanisms and mechanical structures: Making a pop up book		Electrical systems: Doodlers
Year 6		Textiles: Waistcoats		Structures: Playgrounds		Cooking and Nutrition: Come dine with me (Main course)		Digital world: Navigating the world	

Design Technology at Marden Vale

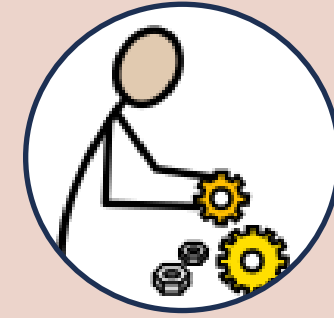


Our second order concepts shape the questions we ask



Design

To decide upon the look and functioning of (a building, garment, or other object), by making a detailed drawing of it and thinking about the way it functions.



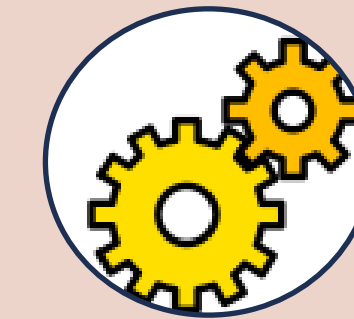
Make

To form something by putting the parts together.



Evaluate

To look at an object in a careful and thoughtful way to judge its effectiveness.



Technical skills

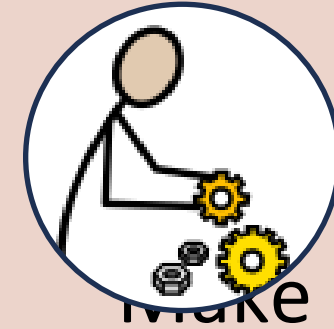
Technical skills are sets of abilities or knowledge used to perform practical tasks in technology,

Our second order concepts shape the questions we ask



Design

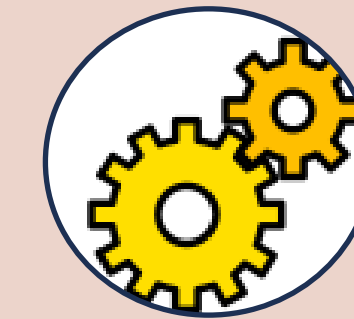
What is the purpose of my product?
What materials will I need?
How will I join materials?
Who is my product for?



How will I join materials?
How will I cut my materials?
What tools will I need?
How big/ small will my design be?



Have I followed my design?
What worked well?
What could be improved?
What would I change?
Did my design fit the purpose?
effectiveness.



Technical skills

What skill was important?
How will I create a mechanism?
How did I join my fabric?
What skills do I need for this big idea?