The background features several sets of curved lines in the top-left and bottom-right corners. Each set consists of multiple parallel lines, with the innermost being a solid line and the outer ones being dashed lines, creating a sense of depth and movement.

Design is not just what it
looks like and feels like.
Design is how it works.

Steve Jobs

Design Technology

Design Technology Intent

Why do we teach Design Technology?

Design Technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

What is our curriculum aim?

The National Curriculum for Design Technology ensures children:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- Critique, evaluate and test their ideas and products and the work of others
- Understand and apply the principles of nutrition and learn how to cook.

Design Technology Intent

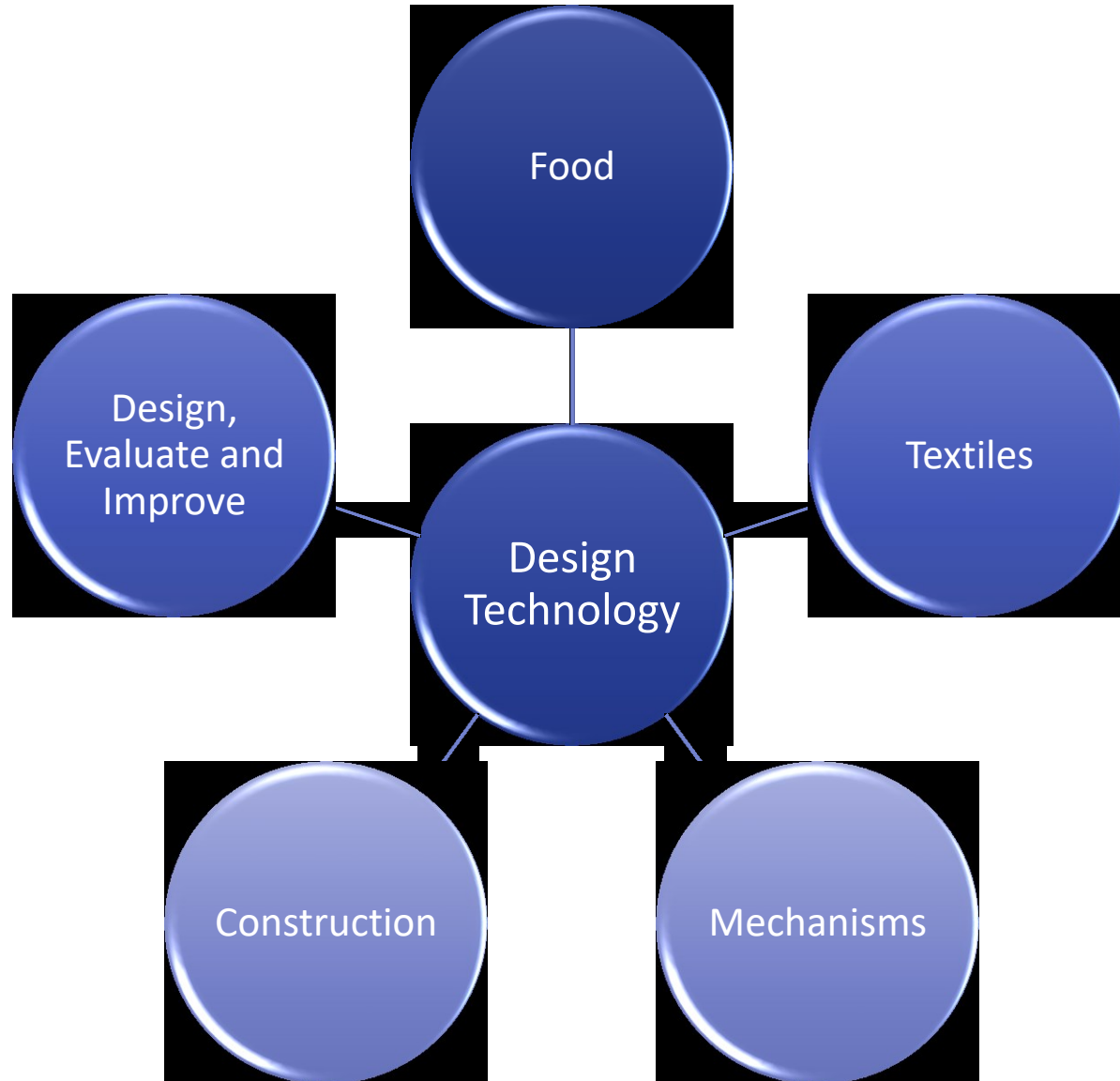
How is Design Technology taught at Westende Junior School?

- At Westende Junior School, we use the National Curriculum to map out long term coverage of progression of knowledge, understanding and skills. From this we have developed a progression of knowledge, skills, techniques, materials and equipment building on from each year group. We do not follow a scheme of work; instead we teach Design and Technology as part of our Creative Curriculum, driven through thematic topics. We ensure the subject is linked to children's own interests and integrated into real contexts for their learning.
- Our Design and Technology curriculum is designed to enable teachers to deliver engaging, practical and meaningful lessons, where learning is facilitated through analysis of existing products/designs and designers, hands on learning, critical questioning, flexible thinking and problem solving. It is taught in mixed-ability class groups, where the focus is on all pupils working together on the same lesson content at the same time. Where appropriate, scaffolding is used in order to support and challenge pupils and ensure all new skills and knowledge are fully embedded. Oracy is promoted and celebrated through discussion and questioning as well as cross curricular links being made where appropriate. Children are modelled how to work safely to lead their own research, create their own designs and ideas and encouraged to question theirs, and others design choice.
- The subject is split into two main strands- 'Design and Making' and 'Cooking and Nutrition' and one of the two areas is taught every term through a sequence of lessons. 'Design and Making' begins with the design stage where children investigate and evaluate existing products before designing and making their own prototypes. Then the production stage, where children choose from a range of different materials, tools and taught techniques to create their own designs. Finally, the evaluation stage, where children discuss their own, and their peers work, and evaluate its effectiveness.
- Cooking and Nutrition also follows the latter but also includes lessons on following recipes, developing skills on general hygiene and safety, understanding the importance of a healthy and varied diet and learning about where food comes from and seasonality.

Design and Technology Content Spine

	Autumn	Spring	Summer
Year 3	Design and Make: Faberge Eggs	Cooking and nutrition/Construction: Gardening Activities	Cooking and Nutrition: Healthy Eating – Making fruit creatures
Year 4	Suffragette brooches – Textiles	Roman Mosaic tiles – Construction Viking cooking – Cooking and nutrition Papier mâché dragon boats – Construction	3D river model – Design, evaluate and improve Trip to Pizza Express – Cooking and nutrition
Year 5	Fairground rides – Mechanisms and construction	3D Anderson shelters – Design, evaluate and improve Pop up mechanisms – Mechanisms	Cooking Greek dishes – Cooking and nutrition
Year 6	Cooking and nutrition – design and make a power bar for a mountaineer Design and making – an electrical alarm and game	STEM projects – design and make a slo-mo marble runs	Design and making – a cushion

Design Technology Key Concepts



Design Technology Progression Map – Food

Year 3 / 4

- choose appropriate tools effectively to make a product
- come up with solutions to problems as they happen
- create a product with a good finish so that a user will find it attractive as well as tasty
- make a product that has been cooked or grilled to change the nature of raw ingredients
- choose appropriate ingredients to meet the requirements of the recipe
- understand seasonality and know where and how ingredients are grown, reared, caught and processed

Year 5 / 6

- use a range of appropriate tools effectively to make a product
- create a food product which uses a selection of seasonal ingredients and to meet an identified need
- know that not all food has been grown, reared, caught or processed in the UK
- understand that cooking alters the flavor and texture of foods
- use scientific knowledge of micro-organisms to store and prepare food properly
- prepare and cook a healthy meal, using a range of cooking techniques

Design Technology Progression Map – Textiles

Year 3/4

- combine materials to add strength or visual appeal
- use sharp scissors accurately to cut textiles
- know that the texture and other properties may affect my choice
- understand how to securely join two pieces of fabric together
- understand the need for patterns and seam allowances
- know and use technical vocabulary relevant to the project
- use back stitch and cross stitch

Year 5/6

- know that a 3D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics
- understand that fabrics can be strengthened, stiffened and reinforced where appropriate
- textile work incorporates the views of intended users and for the purpose
- use art skills to help create a product that is attractive
- use blanket stitch to join textiles
- mark out using own pattern and templates

Design Technology Progression Map – Mechanisms

Year 3/4

- Select the most appropriate techniques and tools to make a product.
- Make a product which has mechanical components.
- Know the application of mechanisms to create movement.
- Come up with solutions to problems as they happen.
- Make a product that uses mechanical components.
- Create a product which has a good finish so that a user will find it both useful and attractive.
- Combine a number of components well in a product.

Year 5/6

- Choose components that can be controlled by switches or by ICT equipment.
- Improve a product after testing.
- Understand and use electrical systems in my product e.g. Circuits incorporating switches, bulb, buzzers and motors.
- Use mechanical systems in my products including gears, pulleys, cams, levers and linkages.
- Finish a product well using a range of art and other finishing techniques.
- Use other DT skills to create housings for mechanical components.
- Investigate, analyse and evaluate existing products that incorporate gears or pulley levels.
- Discuss the idea of 'input' as well as 'output' when discussing electrical circuits.

Design Technology Progression Map – Design, Evaluate and Improve

Year 3

- explain the strengths and weaknesses of existing products
- generate ideas and recognise that designs meet criteria
- plan for appropriate tools, materials and techniques
- identify where evaluations have led to improvements
- draw a cross sectional diagram of my design
- evaluate work against design criteria

Year 4

- think about the order of work, using appropriate techniques
- clarify ideas using labelled sketches and models
- identify what is working well and what can be improved
- create a design criteria based on existing products and intended users
- evaluate work against own design criteria

Year 5

- generate ideas by collecting and using information
- take the views of users' account when designing
- produce step-by-step plans
- communicate ideas using words, labelled sketches and models
- reflect on designs and develop them bearing in mind use
- create annotated sketches and cross-sectional diagrams

Year 6

- draw on various sources of information to generate designs
- use an understanding of familiar products to develop ideas
- work from detailed plans, modifying them as appropriate
- create a prototype of my design
- clarify ideas through discussion, drawing and modelling
- test and evaluate products, based on the original design and purpose

Design Technology Progression Map – Construction

Year 3

- use precise methods of working so that products good finish
- use the most appropriate material suitable for the purpose of a product
- make a product carefully, using techniques and tools safely
- join materials using both permanent and temporary fastenings
- describe the qualities of a material and say why it is the most suitable choice
- use art skills to apply texture or design to a product

Year 6

- create some joins
- explain how different techniques can strengthen, stiffen and reinforce more complex structures
- make cuts (using scissors, snips or saw) accurately and reject pieces that are not accurate and improve my technique
- construct model marble run, applying my knowledge of different designs

Year 5

- measure materials in mm, then use scoring and folding to shape materials accurately with a focus on precision
- make holes and cuts accurately, rejecting pieces that are inaccurate
- use suitable materials selected for the purpose of a product
- apply a high-quality finish (e.g. using carving, paint, glaze, varnish or other finishes)
- create joins which are strong and stable, giving extra strength to products