

Curriculum Statement for Design and Technology

INTENT - What do we aspire for our children?

'Design and 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.'

National Curriculum 2014

Our Rationale for Design and Technology:

At Hotwells we follow the [National Curriculum for Design and Technology](#) and, alongside this, we aim to ensure that all learners:

- Can understand and apply the fundamental principles and concepts of Design and Technology, including researching, designing, making and evaluating their products;
- Can evaluate and apply their knowledge analytically to solve problems;
- Are competent, confident and creative designers.

Our Aims for Design and Technology at Hotwells:

At Hotwells we have a Design and Technology (DT) curriculum that teaches our children about perseverance, curiosity and problem solving. We consistently encourage excellent teamwork as well as developing the children's planning, practical and evaluative skills. At Hotwells our aim for the DT curriculum is for children to develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. We provide fun and engaging lessons that spark a love of design in all pupils. DT is taught using the Kapow Design and Technology curriculum, which allows us to cover a breadth of areas and give our pupils all of the necessary disciplinary knowledge to be successful in their learning.

At Hotwells, our overarching aims are:

We are Ambitious:

- Pupils are inspired to be innovative and creative thinkers who develop an appreciation of the product design cycle through ideation, creation and evaluation.
- They learn about the designed and made world and how things work; they learn to design and make functional products for particular purposes and users.
- They take risks and develop confidence through drafting design concepts, modelling, testing and to be reflective learners who respectfully evaluate their work and the work of others.
- Pupil participate in focused practical tasks in which children develop particular aspects of knowledge and skills.

We are Creative:

- Children can work collaboratively listening to others' viewpoints and work together in small groups to design and build innovative products.
- They inspired by DT and feel confident to express themselves creatively through their work.

We are Local and Global Citizens:

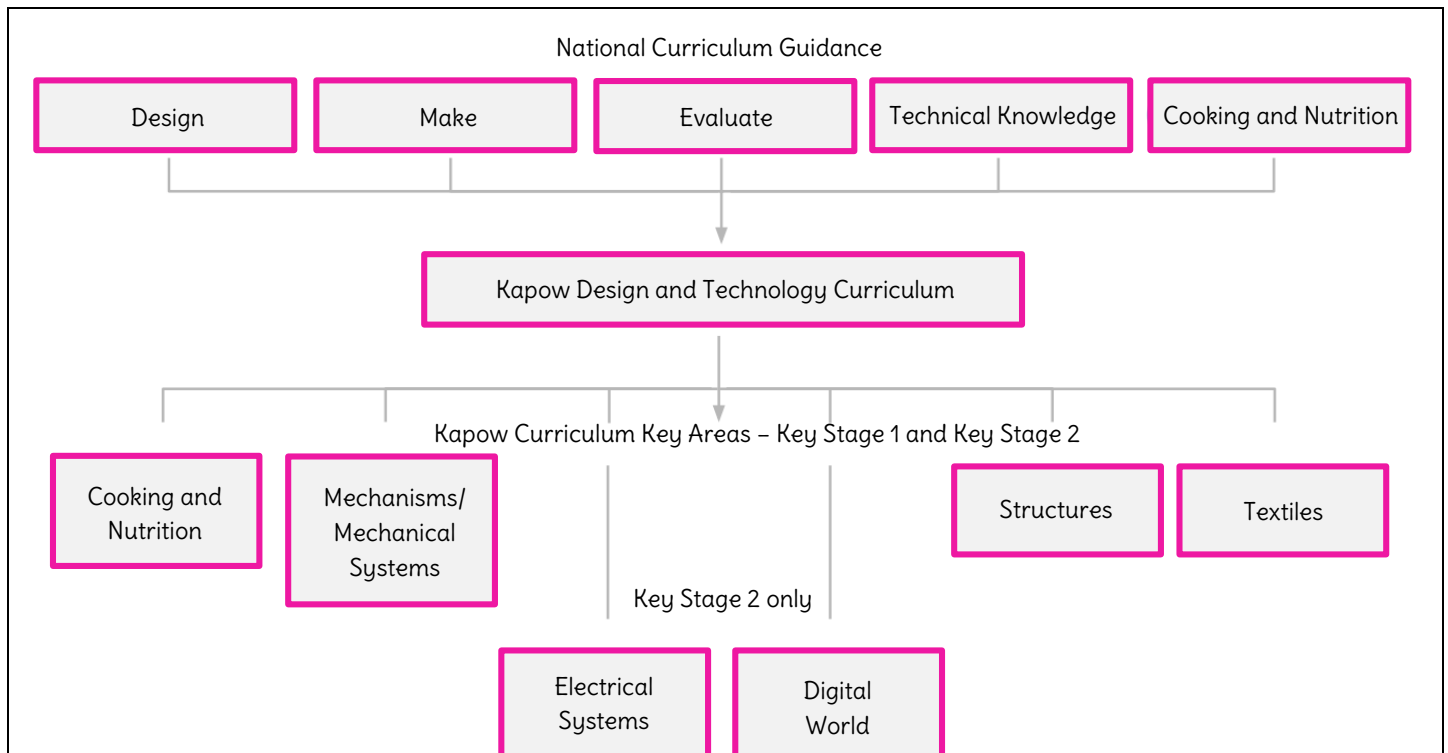
- Children will explore the design and made world in which we all live and work.
- They appreciate the made and designed world in their homes and locality.

What will our children learn at Hotwells?

The Kapow Design and Technology curriculum is organised into blocks with each block covering a particular set of disciplines, including Cooking and Nutrition, Mechanisms/Mechanical Systems, Structures and textiles. The Digital World and Electrical Systems are covered in Key Stage 2. Vertical progression in each discipline has been deliberately woven into the fabric of the curriculum so that pupils revisit key disciplines throughout their Primary journey at increasing degrees of challenge and complexity.

The Kapow Design and Technology curriculum has been designed as a spiral curriculum with the following key principles in mind:

- **Cyclical:** Pupils return to the key strands again and again during their time in primary school.
- **Increasing depth:** Each time the key strand is revisited it is covered with greater complexity.
- **Prior knowledge:** Upon returning to each key strand, prior knowledge is utilised so pupils can build upon previous foundations, rather than starting again.



Long term sequence for Design and Technology (Year 1 – Year 6)

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 |
|--------|--|--|--|---|---|
| Year 1 | Food: Fruit and Vegetables | Structures: Constructing Windmills | Mechanisms: Moving Story Book | Mechanisms: Wheels and Axles | Textiles: Puppets |
| Year 2 | Mechanisms: Fairground Wheel | Food: A Balanced Diet | Structure: Baby Bear's Chair | Textiles: Pouches | Mechanisms: Moving Monster |
| Year 3 | Textiles: Cushions or Egyptian Collars | Structures: Constructing a Castle | Food: Eating Sensibly | Digital World: Electronic Charm | Mechanical System: Pneumatic Toys |
| Year 4 | Mechanical Systems: Slingshot Cars | Textiles: Fastenings | Structures: Pavilions | Food: Adapting a Recipe | Electrical Systems: Torches |
| Year 5 | Food: What could be healthier? | Electrical Systems: Doodlers | Mechanical Systems: Pop-Up Books | Digital World: Monitoring Devices | Structures: Bridges |
| Year 6 | Structure: Playgrounds | Mechanical Systems: Automata Toys | Electrical Systems: Steady Hand Game | Digital World: Navigating the World | Food: Come Dine With Me |

The units themselves may not always be taught in this order as this flexibility allows us, as a school, to adapt the planning where necessary to suit the school and make use of cross-curricular links.

IMPLEMENTATION - How will we deliver the curriculum?

Design and Technology is blocked each term, with a designated day to allow for the practical activities. The six key areas of the curriculum are revisited each year, with Electrical Systems and Digital World beginning in Key Stage 2.

The Design and Technology National Curriculum outlines the three main stages of the design process: design, make and evaluate. Each Kapow Primary unit follows these stages, to form a full project. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical and technical understanding, required for each strand.

Cooking and nutrition has a separate section in the Design and Technology National Curriculum, with additional focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality. Food units still follow the design, make and evaluate process, for example by tasking the pupils to develop recipes for a specific set of requirements (design criteria) and to suggest methods of packaging the food product including the nutritional information.

Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

What will DT look like in EYFS?

Expressive Arts and Design involves the development of the children's artistic and cultural awareness and supports their imagination and creativity. The frequency and range of opportunities is important to enable them to explore and play using a wide range of media and materials. The quality and variety of what the children see, hear and participate in is crucial for their understanding, self-expression, vocabulary and ability to communicate through the arts.

What will DT look like in Key Stage 1 and Key Stage 2?

The Kapow DT curriculum is organised into blocks with each block covering a particular set of disciplines, including Cooking and Nutrition, Mechanisms, Structures, Textiles (Key Stage 1 and Key Stage 2) and Electrical Systems and Digital World (Key Stage 2 only). Vertical progression in each discipline has been deliberately woven into the fabric of the curriculum so that pupils revisit key disciplines at increasing degrees of challenge and complexity.

Each Design and Technology should include:

- Explicit teaching of and recapping of vocabulary.
- A recap on prior knowledge.
- Knowledge organisers used to support key knowledge and vocabulary.
- Focussed practical task with modelling.
- Opportunities for discussion and purposeful talk.

Each topic has an accompanying Knowledge Organiser which is shared with the class and stuck into each child's book / portfolio page. They are used to scaffold the learning for all children and are used by pupils to help them know and understand technical vocabulary and core concepts taught in the topic.

IMPACT - How do we know our curriculum is effective?

Pupil Voice:

The impact of this curriculum will ensure that all children make progress regardless of their starting points. We understand that pupils are the best way to show how effective our curriculum is. Pupil voice will demonstrate:

- Children's ability to talk about the 'why' behind their learning and build upon previous knowledge and skills. Children's confidence to talk about the design process and the rationale behind their designs.
- Children having the confidence to express themselves creatively across the range of DT disciplines.

High Quality Outcomes:

- Sketch Books and DT Portfolios will demonstrate pride and effort.
- Children's work will show increasing understanding of subject specific concepts and knowledge, demonstrating a clear sequence of learning, with subject specific vocabulary clearly seen.
- Work will be celebrated on the school website and social media.
- The school environment will celebrate DT learning.