



INTENT

Y3 children
learning to make
flatbread as part
of our Ancient
Egypt Learning
Challenge





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Design and Technology- Intent

The Kapow Design and Technology scheme of work at Beckstone Primary school aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation. 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.

Through our scheme of work, we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements.

Our Design and Technology scheme of work enables pupils to meet the end of key stage attainment targets in the National curriculum and the aims also align with those in the National curriculum.

EYFS (Reception) use a skills framework which prepares children to access the KS1 curriculum in KS1.

Aims of the Design and Technology Curriculum

The national curriculum for design and technology aims to ensure that all pupils:

- 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 and Technology- Intent

Early Years

During the Early Years Foundation Stage, the essential building blocks of children's design and technology capability are established. There are many opportunities for carrying out D&T-related activities in all areas of learning in the EYFS.

By the end of the EYFS, most children should be able to:

- Construct with a purpose in mind, using a variety of resources
- Use simple tools and techniques competently and appropriately
- Build and construct with a wide range of objects, selecting appropriate resources and adapting their work when necessary
- Select the tools and techniques they need to shape, assemble and join materials they are using.

The most relevant early years outcomes for DT are taken from the following areas of learning:

- Physical Development
- Understanding the World
- Expressive Arts and Design.



Early Years to Key Stage 1



Design and Technology – EYFS – KS1

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	ELG 16 Creating with Materials	How this is achieved in EYFS	Key Vocabulary to be developed in EYFS	Art and Design KS1
Specific Area of Learning Expressive Arts and Design	<ul style="list-style-type: none"> Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used. 	<p>Children can self-select from a range of tools and materials in the continuous provision. Children learn by experimenting with tools such as scissors, staplers and hole punches.</p> <p>They make use of fixing and joining materials such as sellotape, masking tape, string, pipe cleaners and glue.</p> <p>Through questioning children are encouraged to talk about what they like about their work and other children's designs and how they would improve it.</p> <p>Activity Examples:</p> <ul style="list-style-type: none"> Designing and making a sun catcher on a sunny day, choosing the best materials. Building a minibeast hotel outside. Creating rockets using outdoor blocks. Using junk model boxes to create boxes for animals inspired by the book 'Dear Zoo.' Using tools to prepare snack – Butter crackers / cut bananas. Selecting the best resources for den building outside. Cookery - Observing the effects of heat when making cakes – Watching them rise. Creating products for a purpose – Making a basket for fruit, (Handa's Surprise), Making a lantern (The Magic Paintbrush) 	<ul style="list-style-type: none"> Design Build Cut Join Measure Tools Explain / Evaluate 	<p>Design</p> <ul style="list-style-type: none"> 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. <p>Make</p> <ul style="list-style-type: none"> 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. <p>Evaluate</p> <ul style="list-style-type: none"> Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. <p>Technical knowledge</p> <ul style="list-style-type: none"> 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.





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Design and Technology- Intent

The Design and technology National curriculum outlines the three main stages of the design process: design, make and evaluate.

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, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality.

The National curriculum organises the Design and technology attainment targets under five subheadings or strands:

- Design
- Make
- Evaluate
- Technical knowledge
- Cooking and nutrition*

Kapow Primary's Design and technology scheme has a clear progression of skills and knowledge within these five strands across each year group. As we have some mixed ages classes and a two year rolling programme of planning, we occasionally combine a Y3 and Y4 or Y1 and Y2



Key areas

The six key areas are revisited each year, with Electrical systems and Digital world beginning in KS2. The areas enable all subject leads, specialists or non-specialists, to understand and make it easy for teachers to see prior and future learning for your pupils. You can see, at a glance, how the unit you are teaching fits into their wider learning journey.

EYFS (Reception), Key Stage 1 and 2

Cooking and nutrition

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



Mechanisms/ Mechanical systems

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



Structures

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



Textiles

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



Key Stage 2

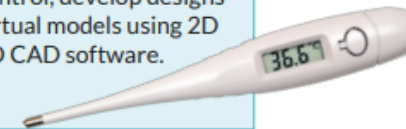
Electrical systems

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



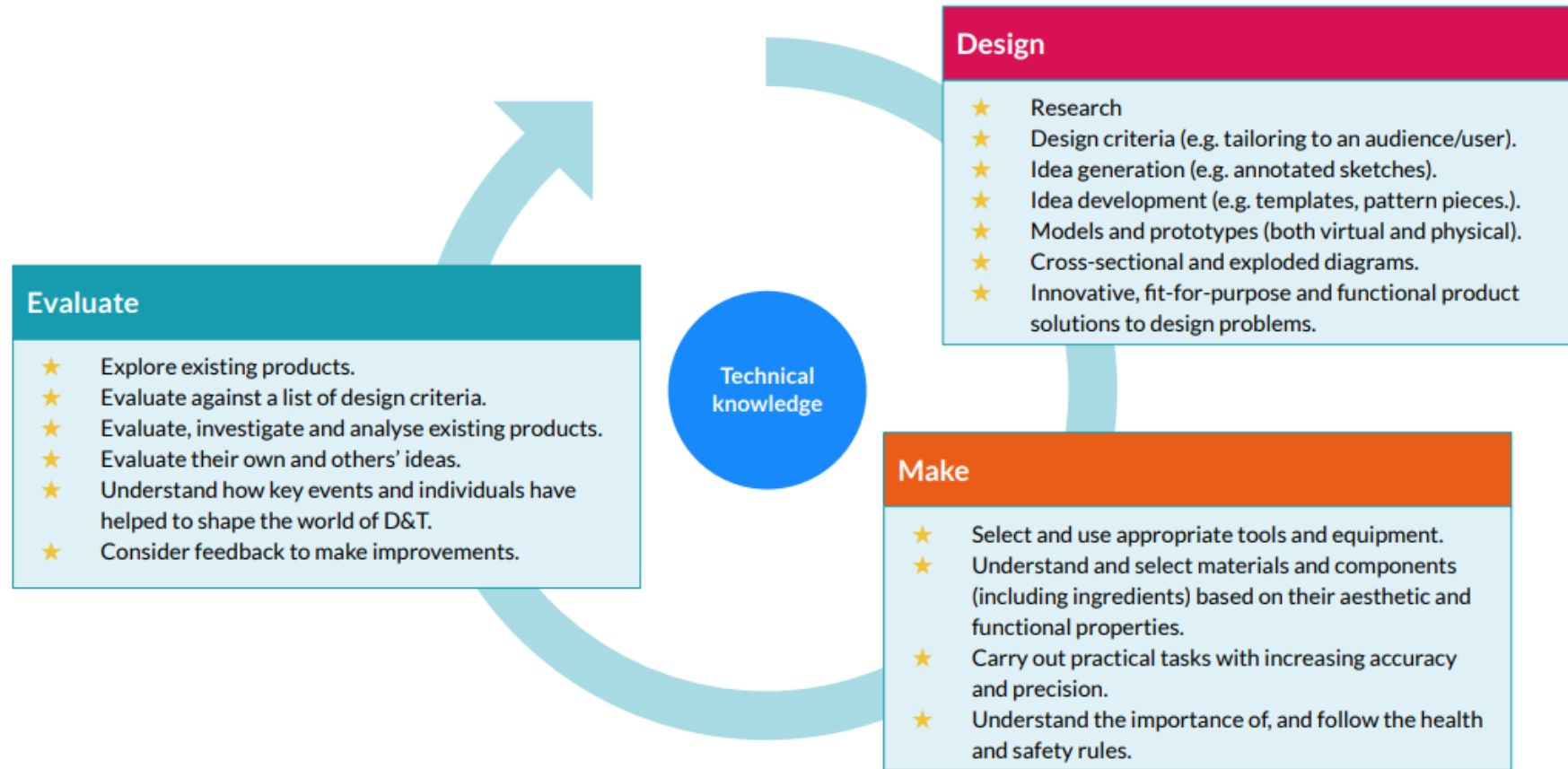
Digital world

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



The design process

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 D&T 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 process summarised above, 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.

DT Provision Y1-Y6

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KS1 YA		Textiles: Puppets	Mechanisms: Wheels and Axles		Food: A Balanced Diet	
KS1 YB		Mechanisms: Making a Moving Story Book (Christmas)	Structures: Baby Bear's Chair		Food: Fruit and Vegetables (Phunky Foods)	
LKS2 YA		Food: Eating Seasonally	Electrical Systems Torches			Mechanical Systems: Pneumatic Toy
LKS2 YB	Structures: Castles (Y4 frame structure)		Textiles: Fastenings		Food: Adapting a Recipe	
UKS2 YA	Mechanical Systems: Pop Up Books	Digital World: Navigating the World		Electrical System: Steady Hand System	Food: Come Dine With Me	
UKS2 YB		Food: Victorian Cooking Textiles: Stuffed Toys			Structures: Bridges	