BECKSTONE PRIMARY

DESIGN & Technology

IMPLEMENTATION

Using a hacksaw to create a 3D structure.

Design and Technology – Implementation

Each of our key areas follows the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum.

The Kapow Primary scheme is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning. 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.
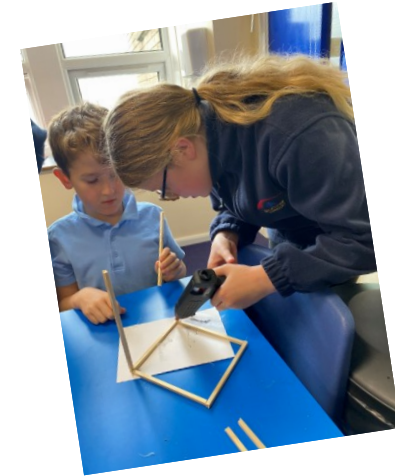
Differentiation is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

Planning

Long term plans outline the learning within each year group.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
	Please see the suggested plan below for if you need to deliver D&T within a shorter time frame.				
Year 3	**Textiles: Cross stitch and appliqué** Cushions or Egyptian collars (4 lessons)	Structures: Constructing a castle (Lessons 2 – 4; omit lesson 1)	Food: Eating seasonally (4 lessons)	Digital world: Electronic charm (4 lessons)	Mechanical system: Pneumatic toys (Lessons 2 – 4; omit lesson 1) NB. Watch the tea box in lesson 1, as a physical example.
Year 4	Mechanical systems: Making a slingshot car (4 lessons)	Textiles: Fastenings (Lessons 2-4; omit lesson 1)	Structures: Pavilions (4 lessons)	Food: Adapting a recipe (4 lessons)	Electrical systems: Torches (Lessons 2 - 4; omit lesson 1)
Year 5	Food: What could be healthier? (4 lessons)	Electrical systems: Doodlers (Lessons 1 - 3; omit lesson 4)	Mechanical systems: Making a pop-up book (Lessons 1 - 3; omit lesson 4) NB. Use the Jack and Jill book and moving parts template in Lesson 2, to reduce time.	Digital world: Monitoring devices (4 lessons)	Structures: Bridges (4 lessons)
Year 6	Structure: Playgrounds (Lessons 1 - 3; omit lesson 4) NB. Skip the surrounding landscape and complete the playground structures in lesson 3.	Mechanical systems: Automata toys (4 lessons)	Electrical systems: Steady hand game (Lesson 2 - 4; omit lesson 1)	Digital world: Navigating the world (5 lessons) NB: You could complete lesson 5 as an assembly or celebratory event.	Food: Come dine with me (4 lessons)

Planning
All modules contain unit outcomes and key skills which provide clear direction for teaching art and design. National Curriculum objectives are highlighted and teaching is supported by success criteria.

This success criteria provides children with a framework for self assessment and teachers with a framework for feedback. Examples of work in planning resources also enable children and teachers to have a clear understanding of the what their end outcome could be.

Each plan contains an attention grabber, to anchor the children's interest, a main event, differentiation and a plenary.

Key vocabulary is also in planning and on Knowledge Organisers which are stuck in the children's sketchbooks.

IMPLEMENTATION

Design and Technology– Implementation

Knowledge organisers for each unit support pupils by providing a highly visual record of the key knowledge and techniques learned, encouraging recall of skills processes, key facts and vocabulary.

Mechanical Systems - Pop-up book

Aesthetic	How an object or product looks.
CAD	Computer-aided-design. To use the computer to design a product, diagram or drawing.
Caption	A short piece of writing under a picture that describes or explains the picture.
Design	To make, draw or write plans for something.
Design brief	A description of what you are going to design and make and how it will work.
Design criteria	To help designers focus their ideas and test the success of them.
Exploded-diagram	A diagram which shows all of the parts of a product, including the internal and external parts.
Function	How an object or product operates or works.
Input	Input is the motion used to start a mechanism.
Linkage	A set of bars linked together to form a mechanism.
Mechanism	A system of parts working together.
Motion	The movement an object makes when controlled by an input or output (e.g. left, right, up, down).
Output	Output is the motion that happens as a result of starting the input.
Pivots	A shaft or pin on which something turns.
Prototype	A simple model that lets you test out your idea, showing how it will look and work.
Sliders	A part of a mechanism which allows an object to move from side-to-side (e.g. left-to-right).
Structure	Something which stands, usually on its own.
Template	A stencil made of metal, plastic, or paper, used for making many copies of a shape or to help cut material accurately (e.g. biscuit cutter).

Key fact

Input is the motion used to start a mechanism. Output is the motion that happens as a result of the input.

input

output

Think of a see-saw, when you sit on your side of the see-saw (input) your friend goes up on the other side. (output)

Did you know?

Did you know that the first children's pop-up books were invented in the 1700s? That's over 300 years ago! Lothar Meggendorfer was a well-known pop-up author in the 1800s.

Design and Technology– Implementation

Pupil videos are used to support teaching and learning in design and technology . They are created by subject specialists to help pupils to see techniques being modelled clearly. Teachers and children learn and apply skills together, discussing and comparing techniques and outcomes.
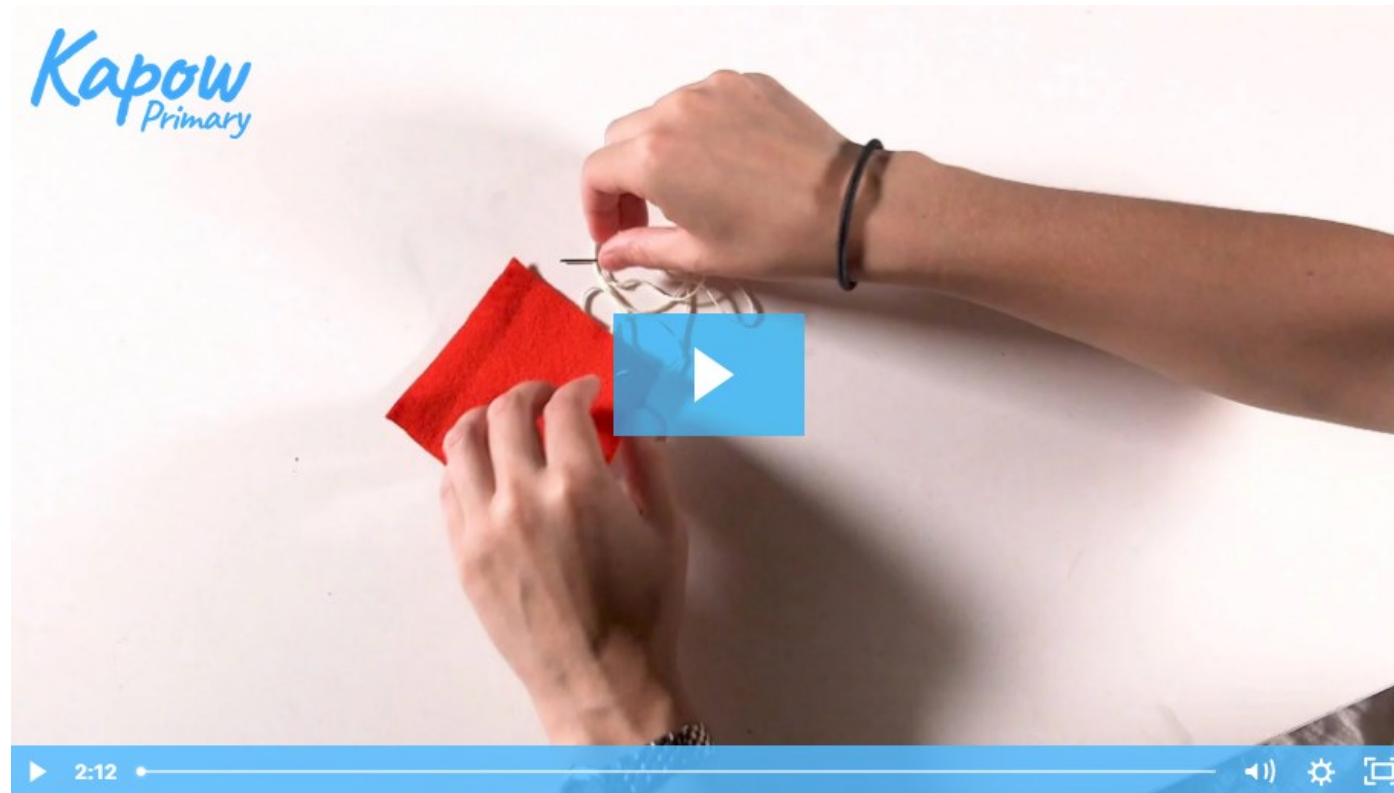
Design and Technology– Implementation

Each unit of lessons includes multiple teacher videos to develop subject knowledge and support ongoing CPD. These videos are used in the planning stages to provide ongoing CPD in design and technology for staff so children are receiving high quality DT teaching.

Assessment

At the end of each lesson, children have opportunities to discuss their learning in the Wrapping Up part of session. There is a key question which gauges children's understanding of the topic being taught.

For every unit there is a corresponding assessment quiz and knowledge catcher. The quiz is displayed on the interactive whiteboard along with a printable pupil answer sheet. The quizzes can be used at the beginning and end of a unit to check progression or just at the end.

Unit quiz
Design and technology
Monitoring devices
Year 5

Quiz

Unit title: _____
Name: _____ Date: _____

Question 1: A B C D   Question 10:
Question 2: A B C D
Question 3: A B C D
Question 4: A B C D
Question 5: A B C D
Question 6: A B C D
Question 7: A B C D
Question 8: A B C D
Question 9: A B C D   Score:

Year 5 - Monitoring devices
Use the image to help you answer the questions.

1 What is a monitoring device? Include an example and explain how it works

2 How have thermometers evolved since 1709?

The Knowledge Catchers are a more open ended way to assess children's understanding. These can be used at the start of planning to assess what the children already know and inform planning.

At the end of the unit, the children can add what they have learnt to the Knowledge Catcher in a different colour.

BECKSTONE PRIMARY

Vocabulary and Oracy in DT

Vocabulary
Vocabulary forms a key part of our wider curriculum. Each lesson identifies key vocabulary to be introduced and discussed within the session.

Oracy
DT sessions encourage children to work together, discuss ways of working, collaborate and evaluate outcomes.

DESIGN & TECHNOLOGY