Design and technology

Long-term plan

Condensed curriculum

18 lesson, condensed curriculum covering the EYFS, KS1 and KS2 national curriculum objectives in less time.

This document is regularly updated to reflect changes in our content and the most recent version can always be found here

This version was created on 22.10.25

Contents:

How does Kapow Primary's scheme of work align with the National Curriculum?

Our scheme of work fulfils the statutory requirements outlined in the **national curriculum (2014)**. The national curriculum Programme of study for Design and technology aims to ensure that all pupils:

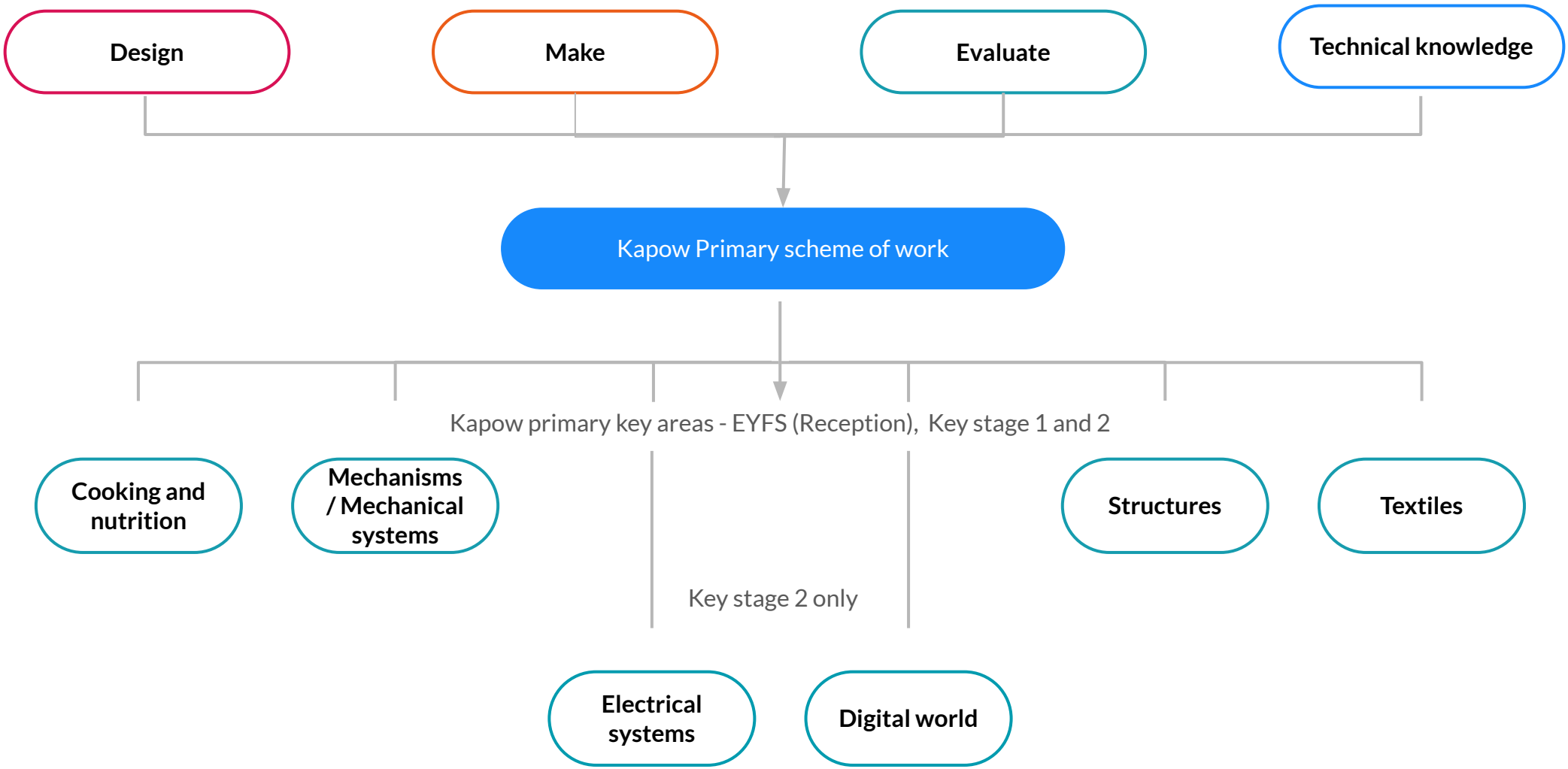
- ★ develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- ★ build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes 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.
  (*This aim is linked to the four strands, but is primarily met by teaching units from our Cooking and nutrition key area)

We have identified four key strands which run throughout our scheme of work:

- **Design**
- **Make**
- **Evaluate**
- **Technical knowledge**

Our D&T: National curriculum coverage document shows which of our units cover each of the National curriculum attainment targets and strands above. Each lesson plan references the relevant National curriculum objectives, along with cross-curricular links to any other subjects. For EYFS (Reception) links are made to Development matters and the Early Learning Goals.

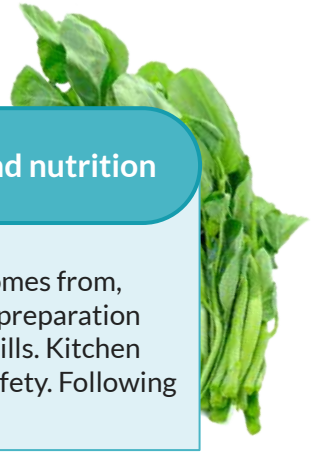
How is the Design and technology scheme of work organised?



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.

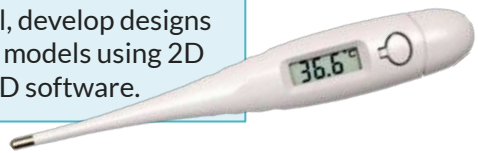
Key Stage 2

Electrical systems

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

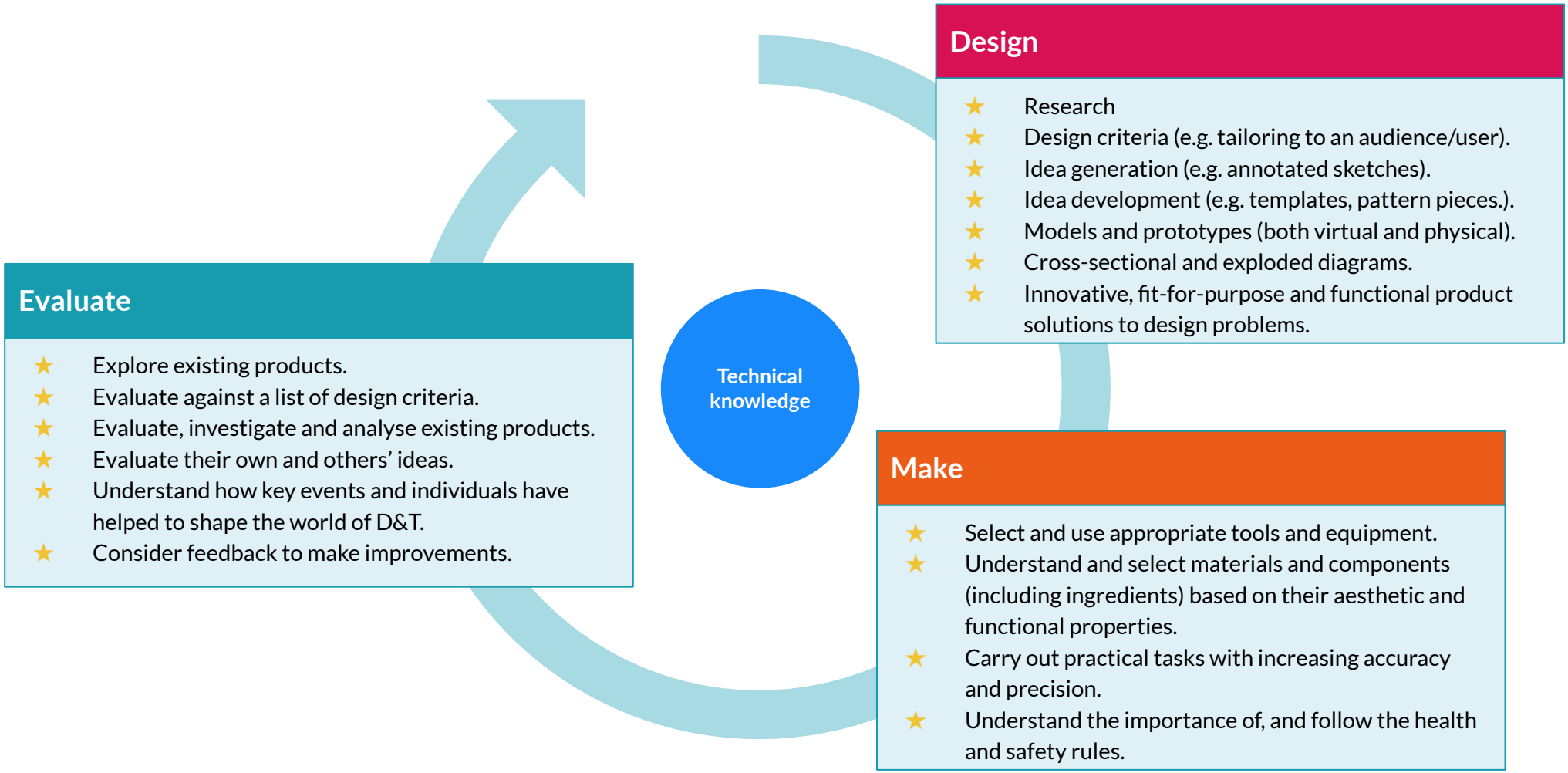
Digital world

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. Cooking and nutrition 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.

Oracy in Design and technology

‘Oracy is the ability to speak eloquently, to articulate ideas and thoughts, to influence through talking, to collaborate with peers and to express views confidently and appropriately.

Oracy refers both to the development of speaking and listening skills, and the effective use of spoken language in teaching and learning. It is to speech what literacy is to reading and writing, and numeracy is to Maths.’

Speak for Change: Final report and recommendations from the Oracy All-Party Parliamentary Group Inquiry.

Learning *through* talk

At Kapow Primary, we believe it's crucial to provide pupils with opportunities for exploratory talk during their learning. This involves thinking aloud, questioning, discussing, and collaboratively building ideas.

Learning *to* talk

Similarly, developing oracy skills is essential for pupils to express and articulate themselves effectively across various contexts and settings, including formal ones like public speaking, debates, and interviews.

Through our Design and technology curriculum, pupils have opportunities to develop their oracy skills by:

- Presenting their design ideas or products to audiences of different sizes.
- Explaining designs, preferences or final products.
- Role-playing from the point of view of the user.
- Discussing products and design ideas using new vocabulary.
- Collaborating by organising tasks within a group.
- Critiquing others’ designs and products.
- Reflecting on and responding to feedback towards their own designs and products.
- Summarising design ideas.

A spiral curriculum

The scheme of work 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.

Is there any flexibility in the Kapow Primary Design and technology scheme?

Our Design and technology scheme of work is organised into units of four or six lessons. The scheme is currently being updated so that each unit will have six lessons, starting with the Cooking and nutrition units.

Within each unit, lessons must be taught in order as they build upon each other.

Across a single year group, units themselves do not need to be taught in the suggested order.

The flexibility in the order allows schools to adapt the planning to suit their school and to make use of cross-curricular links available.

The suggested order in these long term plans takes account of the limited resources which may be available in school. Therefore the key strands have been distributed across the year so that all year groups are not requiring the same tools and equipment at the same time.

Why have we chosen to include these Design and technology units?

For Design and technology, we had to make some difficult decisions about which units to include and which to omit. We have carefully selected units to ensure gradual progression towards the National curriculum end of key stage attainment targets and to cover all of the four strands shown below in enough detail.

Design | **Make** | **Evaluate** | **Technical knowledge**

Some key areas appear less frequently than others, for example Textiles, and this is deliberate. The National curriculum statements below show that working with textiles is only a small element of the Make strand and many of the making techniques covered in our Textiles units are also covered with a range of materials in other units, such as the use of templates, modelling, measuring and marking out, cutting, shaping and joining.

Make (KS1)	Make (KS2)
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	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

Similarly in Year 2, the coverage of key areas is deliberately imbalanced as there are two Mechanisms units. This is because there is strong progression between the Y1 Structures: Constructing a windmill and the Y2 Mechanisms: Fairground wheel and then again with the Y2 Mechanisms: Making a moving monster. To omit one of these units would negatively impact on the progression.

Other useful documentation:

There are a number of essential documents that can support you in planning and approaching our **Design and technology** scheme of work and they can be found on our Subject planning page

- ✓ Progression of knowledge and skills document - condensed
- ✓ National curriculum mapping
- ✓ Knowledge organisers
- ✓ Approaching the new Digital world units *to program, monitor and control products*
- ✓ Design and technology resource and costings sheet
- ✓ Equipment list
- ✓ Personal development, SMSC and British values mapping
- ✓ Intent, Implementation, Impact statement

Suggested long-term plan: Design and technology - Outline (Condensed)

Please see the suggested plan below for if you need to deliver D&T within a shorter time frame.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
EYFS: Reception	Structures: Junk modelling (6 lessons)	Textiles: Bookmarks (6 lessons)	Structures: Boats (6 lessons)		
Year 1	Option 1: Structures: Stable structures (Lesson 1 - 3; omit lessons 4 - 5) Option 2: Structures: Constructing windmills (Lesson 1 - 3; omit lesson 4)	Option 1: Mechanisms: Matching slider game (Lesson 1 - 3; omit lesson 4 - 5) Option 2: Mechanisms: Moving story book (Lesson 1 - 3; omit lesson 4) NB: Use the Storybook template (see Resources) for all pupils in Lesson 2 to save time.	Option 1: *New* Wheels and axles (5 lessons) Option 2: Wheels and axles (4 lessons)	Textiles: Puppets (4 lessons)	Cooking and nutrition: Smoothies (Lessons 1, 2, 5 and 6; omit lessons 3 and 4)
Year 2	Mechanisms: Fairground wheel (5 lessons)	Cooking and nutrition: Balanced diet (Lessons 1, 2, 5 and 6; omit lessons 3 and 4)	Option 1: Structures: A chair for a bear (Lesson 1, 2 and 4; omit lessons 3 and 5) Option 2: Structures: Baby bear's chair (Lesson 2 - 4; omit lesson 1)	Textiles: Pouches (Lessons 1 – 3; omit lesson 4)	Mechanisms: Moving monster (4 lessons)

Suggested long-term plan: Design and technology - Outline (Condensed)

Please see the suggested plan below for if you need to deliver D&T within a shorter time frame.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Year 3	**Textiles: Cross stitch and appliqué** Cushions or Egyptian collars (4 lessons)	Structures: Constructing a castle (Lessons 2 – 4; omit lesson 1)	Option 1: *New* Mechanical systems: Pneumatic toys (Lessons 1, 3 and 4); omit lessons 2 and 5) NB. Use elements of lesson 2 to support diagram learning in lesson 3. Option 2: Mechanical system: Pneumatic toys (Lessons 2 – 4; omit lesson 1) NB. Watch the tea box in lesson 1, as a physical example.	Digital world: Wearable technology (Lessons 2-4; omit lessons 1 and 6) NB. This means that there is no evaluation in the unit.	Cooking and nutrition: Eating seasonally (Lessons 2, 4, 5 and 6; omit lessons 1 and 3)
Year 4	Option 1: Mechanical systems: Mechanical cars (Lessons 2-5, omit lesson 1) Option 2: Mechanical systems: Making a slingshot car (4 lessons)	Textiles: Fastenings (Lessons 2-4; omit lesson 1)	Option 1: Structures: Helmets (5 lessons) Option 2: Structures: Pavilions (4 lessons)	Cooking and nutrition: Adapting a recipe (Lessons 1-3 and lesson 5; omit lessons 4 and 6)	Electrical systems: Torches (Lessons 2 - 4; omit lesson 1)
Year 5	Cooking and nutrition: Developing a recipe (4 lessons) (Lessons 2-4 and lesson 6; omit lessons 1 and 5)	Option 1: Electrical systems: Wobble bots (Lessons 1 - 3; omit lessons 4 - 5) Option 2: Electrical systems: Doodlers (Lessons 1 - 3; omit lesson 4)	Option 1: Mechanical systems: Gears and pulleys (Lessons 1-3 learning and making gears and pulleys; omit lessons 4 and 5 the design task) Option 2: 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.	Cooking and nutrition: Come dine with me (Lessons 2, 4, 5 and 6; omit the optional lessons 1 and 3)

Did you know we have condensed planning for 8 subjects?

Our schemes of work celebrate the unique qualities of each subject, ensuring a broad and balanced curriculum when curriculum time is short.

All subjects include:

- Full National curriculum coverage.
- Engaging lesson plans.
- Integrated CPD.
- Subject leader planning resources.
- Assessment tools.
- Whole-school access.

Explore all our subjects below

ART & DESIGN

COMPUTING

DESIGN & TECHNOLOGY

FRENCH

SPANISH

RSE & PSHE

MUSIC

RELIGION & WORLDVIEWS

This page shows recent updates that have been made to this document.

Date	Update
30.08.23	Updated Y3 unit 4 to 'Wearable technology'.
10.11.23	Updated to reflect refreshed Cooking and nutrition units (p.10-11).
12.07.24	Added a page on oracy in Design and technology (p.7).
21.08.24	Updated to reflect refreshed units published on the website.
02.09.24	Updated to reflect condensed version of new Gears and pulleys unit (p.12)
18.10.24	Updated to reflect refreshed units published on the website.
18.12.24	Updated to reflect refreshed units published on the website.
13.05.25	Added information about all 8 condensed Kapow Primary subjects (p.13).
22.05.25	Updated to reflect newly published unit on the website.
27.06.25	Updated to reflect newly published unit on the website.
01.08.25	Changes to the order of the Year 3 units to move Eating seasonally to Unit 5.
28.08.25	Updated to reflect newly published unit on the website.
22.10.25	Updated to reflect newly published unit on the website.