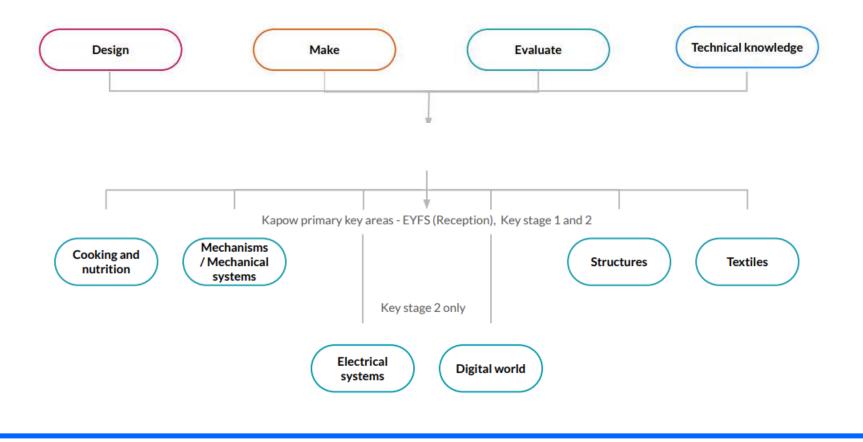


Long Term Planning



How is the Design and technology scheme of work organised?



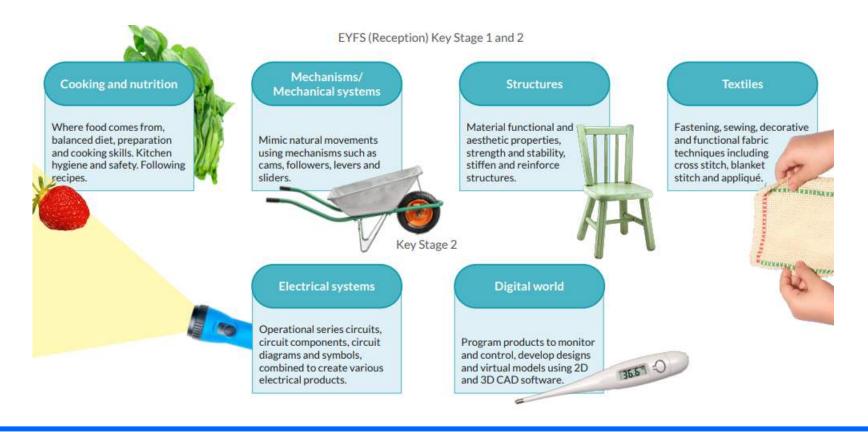


Long Term Planning



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.





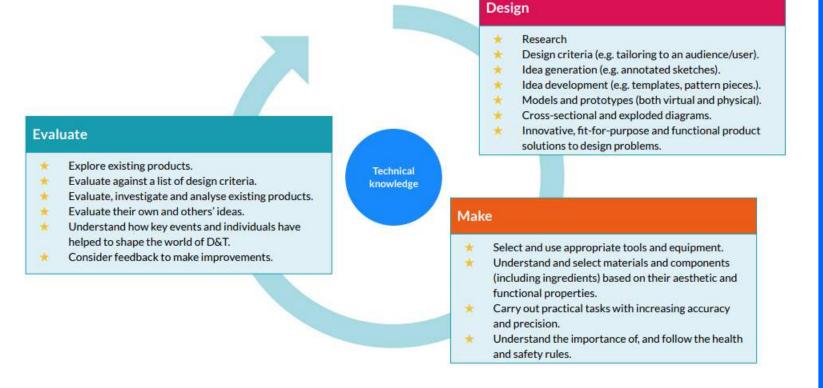
Long Term Planning



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



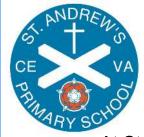




A Spiral Curriculum

The scheme of work has been designed as a spiral curriculum with the following key principles in mind:

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





At St. Andrew's CEVA Primary School, 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.



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.



Long Term Planning



Each of our key areas links to the technical knowledge section of the Design and technology National Curriculum or reinforces principles learnt through exploring various methods and techniques. From KS1 to KS2, the technical knowledge descriptors build upon prior learning and/or introduce new learning.

	Structures	Mechanisms	Textiles	Electrical systems	Digital world	Cooking and nutrition
EYFS	Explore junk modelling, tinkering with temporary and permanent joins, and a range of materials. Create basic models to test in different conditions.	Explore a simple paper slider mechanism.	Explore and develop threading and weaving skills with different materials and objects.			Explore and become familiar with different fruits and vegetables, using their senses.
K51	Build structures such as windmills and chairs, exploring how they can be made stronger, stiffer and more stable. Recognise areas of weakness through trial and error.	Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar products.	Explore different methods of joining fabrics and experiment to determine the pros and cons of each technique.	KS2 only* Create functional electrical products that use series circuits, incorporating different components such as bulbs, LEDs, switches, buzzers and motors. Consider how the materials used in these products can:	KS2 only* Learn how to develop an electronic product with processing capabilities. Apply Computing principles to program functions within a product including to control and monitor it. Understand how the history and evolution of product design lead to the on-going Digital revolution and the impact it is having in the world today.	Learn about the basic rules of a healthy and varied diet to create dishes. Understand where food comes from, for example plants and animals.
KS2	Continue to develop KS1 exploration skills, through more complex builds such as pavilion and bridge designs. Understand material selection and learn methods to reinforce structures.	Mechanical systems Extend pupils understanding of individual mechanisms, to form part of a functional system, for example: Automatas, that use a combination of cams, followers, axles/shaft, cranks and toppers.	Understand that fabric can be layered for effect, recognising the appearance and technique for different stitch and fastening types, including their: • Strength. • Appropriate use. • Design.	 Protect the circuitry. Reflect light. Conduct electricity. Insulate. 		Understand and apply the principles of a healthy and varied diet to prepare and cook a variety of dishes using a range of cooking techniques and methods. Understand what is meant by seasonal foods. Know where and how ingredients are sourced.



in EYFS



Our Design and Technology Early Years Foundation Stage (Reception) supports children in following and exploring their own interests allows for a greater depth of learning and understanding and much higher levels of wellbeing and engagement.

Adults in the classroom can model how to use Design and technology to aid children in their pursuits and scaffold the learning so that they can reach a deeper level of understanding. We know that the difficulty with child-led Design and technology projects often arises when the pupils are not equipped to properly plan their creation or execute their ideas in the way that they wish, sometimes meaning that they will spend a very short amount of time at the workshop or junk modelling area before moving on.

Planning, designing, making and developing skills and knowledge are all fundamental parts of our Design and technology scheme. Children will have opportunities to get to know each of these areas, as they explore different materials, processes and outcomes.





Long Term Curriculum Plan



Autumn2 DESIGN TECHNOLOGY Condensed LTP	<u>EYFS</u> Junk Modelling	Year 1 Constructing Windmills	<u>Year 2</u> Fairground Wheel	Year 3 Cushions	<u>Year 4</u> Making a slingshot car	Year 5 What could be healthier?	<u>Year 6</u> Playgrounds
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Spring 2	<u>EYFS</u>	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Bookmarks	Moving Story	A balanced diet	Constructing a	Fastenings	Doodles	Automata Toys
DESIGN		Book &	&	castle		&	&
TECHNOLOGY		Wheels and	Baby Bears chair	&	Pavilions	Making a pop-up	Steady Hand
Condensed LTP		Axles	a series and the series	Eating		book	Game
				Seasonally		14.040 (19.040 (19.	

Summer 2	EYFS	<u>Year 1</u>	Year 2	Year 3	<u>Year 4</u>	Year 5	Year 6
	Boats	Puppets	Pouches	Wearable Tech	Adapting a	Monitoring	Navigating the
DESIGN		&	&	&	recipe	Devices	world
TECHNOLOGY		Fruit & Veg	Moving Monster	Pneumatic Toys	&	&	&
Condensed LTP			5-07 1		Torches	Bridges	Come dine with me