Long Term Overview for Design and Technology

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year R	**ELG: Expressive Arts & Design: Creating with materials** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share creations, explaining the process they have used. **ELG: Physical development: Fine motor skills** Use a range of small tools including scissors and paint brushes.					
Year 1	Mechanisms: Making a moving storybook	Structures: Constructing a windmill	Textiles: Puppets	Mechanisms: Wheels and axles	Cooking and nutrition: Smoothies	Cooking and nutrition: Fruit and vegetables
Year 2	Mechanisms: Fairground wheel		Cooking and nutrition: A balanced diet		Mechanisms – making a moving monster	
Year 3		Eating seasonally		Textiles – Egyptian Collars		Pneumatic toys
Year 4		Textiles: Fastenings		Cooking and nutrition- adapting a recipe		Digital and mindful moments timer
Year 5		Mechanical systems – pop up books		Cooking and nutrition – What could be healthier?		Structure bridges
Year 6		Textiles: Waistcoats		Cooking and nutrition- Come Dine with me		Electrical systems: Steady hand game

Meeting our Vision and Values

Vision: At Platt C of E Primary School, we want pupils to develop an appreciation and enjoyment of design and technology. We want them to recognise how it contributes to their wellbeing and academic growth. It is a subject that draws on, and informs, many other areas of learning. Its beginnings lie in the Foundation stage, where pupils purposefully explore the world, learning to plan their ideas, create using a variety of materials, and evaluate their creations. Like the parable of the mustard seed, pupils will grow in their design skills and their technical knowledge, culminating with them meeting the requirements of the National Curriculum.

Care (compassion, friendship)	**Learn** (wisdom, koinonia)	**Forgive** (forgiveness, hope)
Design and Technology offers the opportunity to work independently and in small groups. This encourages friendships and compassion towards others	Pupils will learn to create and evaluate in a wide variety of areas. They will develop spirituality of fellowship through learning to prepare food. Textiles, mechanisms, structures, and electronic systems will provide opportunities to learn and gain wisdom about the world.	Designing, creating and testing projects is a hopeful endeavour. Learning to evaluate their own work helps pupils develop their understanding of forgiving their own and other's mistakes.

Intent

The Design and technology scheme of work 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) units provide opportunities for pupils' to work towards the Development matters statements and the Early Learning Goals.

Implementation

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 four subheadings: Design, Make, Evaluate, and Technical knowledge. We have taken these subheadings to be our Kapow Primary strands:

- **Design**

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

Cooking and nutrition is given a particular focus in the National curriculum and we have made this one of our six key areas that pupils revisit throughout their time in primary school:

- Cooking and nutrition
- Mechanisms/ Mechanical systems
- Structures
- Textiles
- Electrical systems (KS2 only)
- Digital world (KS2 only)

Kapow Primary's Design and technology scheme has a clear progression of skills and knowledge within these strands and key areas across each year group.

Our National curriculum overview shows which of our units cover each of the National curriculum attainment targets as well as each of the four strands.

Our Progression of skills shows the skills and knowledge that are taught within each year group and how these skills develop to ensure that attainment targets are securely met by the end of each key stage.

Through Kapow Primary's Design and technology scheme, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six key areas.

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. 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.

Throughout Design and Technology lessons, and at the end of units, teachers will use a range of strategies to assess pupils' understanding and skills, to address misconceptions and improve skills.

Strong subject knowledge is vital for staff to be able to deliver a highly effective and robust Design and technology curriculum. Each unit of lessons includes multiple teacher videos to develop subject knowledge and support ongoing CPD. Kapow Primary has been created with the understanding that many teachers do not feel confident delivering the full Design and technology curriculum and every effort has been made to ensure that they feel supported to deliver lessons of a high standard that ensure pupil progression.

Design and Technology will typically be taught weekly in lessons of between forty-five minutes and one hour. On occasion, teachers may combine lessons into a block to allow resources to be shared. For some year groups, lessons will alternate termly with Art and design ensuring a coverage of the National Curriculum during a Pupil's time at Platt C of E Primary School.

Impact

The impact of Kapow Primary's scheme can be constantly monitored through both formative and summative assessment opportunities. Each lesson includes guidance to support teachers in assessing pupils against the learning objectives. Furthermore, each unit has a unit quiz and knowledge catcher which can be used at the start and/ or end of the unit.

After the implementation of Kapow Primary Design and technology, pupils should leave school equipped with a range of skills to enable them to succeed in their secondary education and be innovative and resourceful members of society.

The expected impact of following the Kapow Primary Design and technology scheme of work is that pupils will:
Understand the functional and aesthetic properties of a range of materials and resources.

- Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products.
- Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD, and products to fulfil the needs of users, clients, and scenarios.
- Understand and apply the principles of healthy eating, diets, and recipes, including key processes, food groups and cooking equipment.
- Have an appreciation for key individuals, inventions, and events in history and of today that impact our world.
- Recognise where our decisions can impact the wider world in terms of community, social and environmental issues.
- Self-evaluate and reflect on learning at different stages and identify areas to improve.
- Meet the end of key stage expectations outlined in the National curriculum for Design and technology.
- Meet the end of key stage expectations outlined in the National curriculum for Computing