Singleton Church of England Primary School

Design Technology Overview

"Passion for Learning .....Passion for life"

Governors and school leaders facilitate a reflective and ambitious culture. Constructive challenge and creative ideas are encouraged,
valued and used to inform whole school planning. The views of learners, parents, staff, governors, therapists, social workers and other
stakeholders inform the evaluation of the quality of our work and provision, which in turn is used to identify areas for improvement.

Curriculum Intent

The aim of our curriculum is linked to our vision

School Vision

To provide the children with a wide variety of engaging and challenging opportunities enabling them to live life to the full. Developing a growth mind-set, believing that with God everything is possible. To show, love, trust, wisdom and respect, becoming exemplary role models in our community and the wider world.

The rationale behind this is…

At Singleton Church of England School, we believe that every child must be provided with opportunities to develop socially, emotionally, academically and physically to achieve the highest possible standards. The sky is the limit for our children. We seek to inspire each other and learn to value greatness, ambition and achievement of all kinds. To belong to Singleton School is an honour. Each of us aspires to reach a potential, which is not limited, but is given wings through the creative curriculum and our Christian Values, which will truly enable us to embrace living our lives without limits.
As such, there is high academic/ vocational / technical ambition for all pupils, and as a school, we do not offer disadvantaged pupils or pupils with SEND a reduced curriculum.

At Singleton C of E Primary School, we see every child as a unique individual. We embrace every child's learning journey and encourage them to be the best they can be.

'Technology is just a tool. In terms of getting the kids working together and motivating them, the teacher is the most important'

Bill Gates

We believe that all children who become pupils at our school deserve the best and our aim is to help them succeed by reaching their full potential in every area of school life – academic, social, personal, physical and spiritual. We do this by ensuring that each child has a clearly defined personal creative curriculum where they understand their educational journey – where it is beginning, where it will take them and how they will get there! Our mission statement is at the very heart of this.

'Passion for learning, Passion for life'

Curriculum Intent- Design Technology

At Singleton School, we believe Design and Technology is a vital part of the education for all children and is a gateway to becoming designers and makers in the world and of the future.

At Singleton Primary School, we aim to inspire and follow the National Curriculum's purpose of study and to be rigorous and practical in approach to teaching and learning about Design and Technology. Our children will design and make products that solve real and relevant problems within a variety of contexts, using imagination and creativity, considering their own and others' needs, wants and values. They will acquire a broad range of subject knowledge and draw on disciplines such as Mathematics, Science, Computing and Art. Children will learn how to take risks; becoming resourceful, innovative, enterprising and capable designers and makers. Through the evaluation of past and present Design and Technology, they develop a critical understanding of its impact on daily life and the wider world.

At our school we intend that children should master Design and Technology to such an extent that they can go on to have careers within Design and Technology and make use of design and technology effectively in their everyday lives. Our children will be taught Design and Technology in a way that ensures progression of skills, and follows a sequence to build on previous learning. Our children will

gain knowledge, experience and skills of a wide range of formal elements of design and concepts of technology in a way that will enhance their learning opportunities, enabling them to use design and technology across a range of subjects to be creative and solve problems, ensuring they make progress

Our curriculum is designed to ensure that all pupils:

- Have significant levels of originality and are willing to take creative risks, to produce innovative ideas and prototypes;
- Use time efficiently to work constructively and constructively with others;
- Carry out thorough research and ask questions, to develop a knowledge of users' needs;
- Develop the ability to appropriately select and use materials, tools and equipment safely and responsibly, as designers and makers;
- Manage risk, hygiene and safety during product manufacturing;
- Have a passion for Design and Technology.

The school's aim is to provide a Design and Technology Curriculum, which will enable each child to reach their full potential in learning in design and technology. Through investigating and making, through research and the development of skills and through their evaluation of their own design and that made by others. All of the children in Singleton School, including those with special educational needs and or disabilities, are given access to a broad, rich and deep curriculum. Singleton school recognises the important of substance of the education. We have used best 'endeavours approach' to organising the curriculum for mixed year classes. In doing this we ensure topics are fully in line with the National Curriculum and that children will build and revisit, through a spiral approach, key skills within Design and Technology. This is planned for and addressed on the 2-year cycle.

Implementation – how is the curriculum implemented?

EYFS

The statutory Early Years Foundation Stage, (EYFS), framework for England clearly identifies the role of design and technology in young children's learning and the subject is specifically named in the area of learning 'Expressive arts and design'.

The early learning goals for expressive arts and design indicate what children should know, understand and be able to do by the end of the reception year. A significant proportion of this learning is delivered through high quality D&T experiences and activities, enabling children to:

- safely use and explore a variety of materials, tools and techniques
- experiment with colour, design, texture, form and function
- use what they have learnt about media and materials in original ways, thinking about uses and purposes.

D&T also makes an important contribution to children's learning across the remaining six areas of the EYFS framework:

- Understanding the World
- Physical Development
- Literacy
- Mathematics
- Personal, Social and Emotional Development
- Communication and Language.

Many D&T experiences in the EYFS take place during child-initiated learning. At this early stage talking with the children about their activities is a valuable way to take the children's thinking and learning further

The Design and technology National curriculum outline 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.

KS1 /2

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

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

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

1. Cooking and nutrition
2. Mechanisms/ Mechanical systems
3. Structures
4. Textiles
5. Electrical systems (KS2 only)
6. Digital world (KS2 only)

These six areas of focus are enriched further through the use of Lego Tecnics within Fantastic Friday which combines computing and design technology.

We follow a broad and balanced Design and Technology curriculum that builds on previous learning and provides both support and challenge for learners. We follow a Design and Technology scheme – KAPOW - that ensures progression of Knowledge and skills and covers all aspects of the Design and Technology curriculum.

As a small school with mixed aged classes we have a 2-year planning cycle. All classes will have a scheduled Design and Technology lessons over the course of a term according to the cycle. Design and Technology is also taught alongside other curriculum subjects and STEM week. Children's work and pictures of their work will be stored on online floor books for reference and assessment.

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 organizers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

We believe that 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.

At Singleton School we also enhance and enrich our DT curriculum through Fantastic Friday where children are given longer sessions to complete high quality work and also Lego Technic is used as an additional resource and enrichment. We work hard to ensure that Design and Technology is embedded in our whole school curriculum and that opportunities for enhancing learning by using design and technology are always taken. Further enrichment includes an annual STEM week and links with BAE and Blackpool and Fylde College which provides annual trips for the KS2 children.

Overview of sequence of topics taught in Design and Technology in Fantastic Friday and STEM Week:

Foundation Stage

We supplement the EYFS curriculum with KAPOW – scheme of work
Food
- KAPOW – Soup

Structures
- KAPOW – Boats

Textiles
- KAPOW – Bookmarks

Key stage one:

Cycle A

Food
- KAPOW – Fruit and Vegetables (Y1)

Mechanisms –
- KAPOW – Making a moving story book (Y1)
- KAPOW – Wheel and axles (Y1)

Structures & Textiles
- KAPOW – Constructing a Windmill (Y1)
- KAPOW – Puppets (Y1)

Cycle B

Food
- KAPOW – A Balanced Diet (Y2)

Mechanisms & Structures
- KAPOW – Making a Moving Monster (Y2)
- KAPOW – Fairground Wheel (Y2)

DT – Structures & Textiles
- KAPOW – Baby Bear's Chair (Y2)
- KAPOW – Pouches (Y2)

Key stage 2: Year 3/4
Cycle A
Food
- KAPOW – Eating Seasonally (Y3)

Structures & Mechanical Systems
- KAPOW – Constructing Castles (Y3)
- KAPOW – Pneumatic Toys (Y3)

Electrical Systems, Textiles & Digital World
- KAPOW – Electric Poster (Y3)
- KAPOW – Cross-stitch and applique (Y3)
- KAPOW – Electric Charm (Y3)

Cycle B

Food

- KAPOW – Adapting a Recipe (Y4)

Structures, Mechanical Systems & Digital World

- KAPOW – Pavilions
- KAPOW – Making a Slingshot Car

Electrical Systems, Textiles

- KAPOW – Torches
- KAPOW – Fastenings
- KAPOW – Mindful Moments Timer

Upper Key stage 2: Year 5/6

Cycle A

Food

- KAPOW – What Could be Healthier? (Y5)

Structures & Mechanical Systems

- KAPOW – Bridges (UKS2)
- KAPOW – Pop-Up Book (Y5)

Electrical Systems, Textiles & Digital World

- KAPOW – Doodlers
- KAPOW – Stuffed Toys
- KAPOW – Monitoring Devices

Cycle B

DT – Food

- KAPOW – Come Dine with Me

Structures & Mechanical Systems

- KAPOW – Navigating the World (Y6) – remaining sessions from last half term
- KAPOW – Playgrounds
- KAPOW – Automata Toys

Electrical Systems, Textiles & Digital World

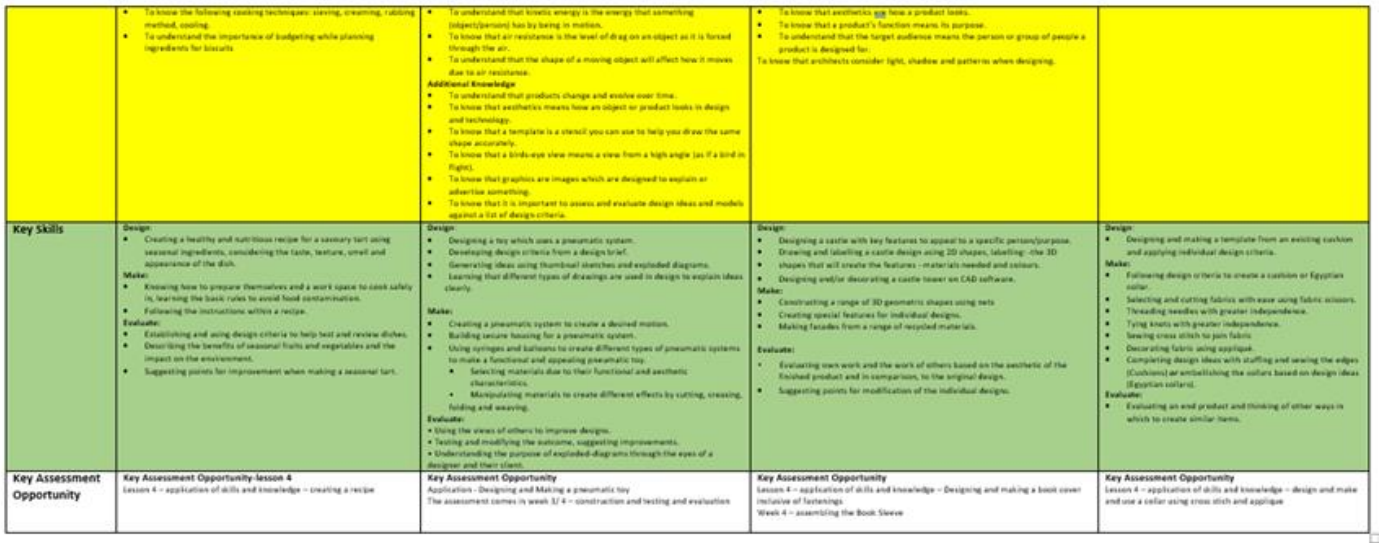
- KAPOW – Steady Hand Game
- KAPOW – Waistcoats (Y6)

Progression in Skills and Knowledge

- In order to support the teaching staff with connecting new knowledge with existing knowledge (Which is more complicated with mixed aged classes and a 2-year cycle) We have produced 'Progression Grids' for the staff.
- These outline: -
    - Previous and next unit of work
    - Key Vocabulary
    - Substantive Knowledge
    - Making Connections with prior learning
    - Key Skills
    - Key Assessment Opportunities
- This is particularly important with the mixed age classes, as it provides a quick reference point for staff and leaders and identifies previous topics / context and learning.
- The 'Progression Grids' also help with SEN and inclusion as it supports with differentiation for children who are working below or above age-related expectations.
- These also support the notion that the work given over time across the school in DT, match the aims of the NC. This is planned and sequences to build on prior knowledge and skills and provide a pathway for future learning in DT.

Singleton Church of England Primary School
Progression of Skills and Knowledge
DT - Y3

	Year 3 –Cooking & Nutrition Eating Seasonally	Year 3 – Mechanisms/Mechanical Systems Pneumatic Toys	Year 3 – Structures Constructing a castle	Year 3-Textiles Cross stitch & applique
Previous unit and next unit	**EYFS – Soup** **Y1 –Fruit & Vegetables** **Y2- A balanced diet** **Y4 – Adapting a recipe**	**No EYFS** **Y1-Making a moving story book** **Y1 - Wheels and axles** **Y2- Fairground Wheel** **Y2- Making a moving monster** **Y4- Making a sling shot**	**EYFS- Boats** **Y1 – Constructing a windmill** **Y2- Baby bears chair** **Y4- Fastenings**	**EYFS – Bookmarks** **Year 1- Puppets** **Y2 – Pouches** **Yr4 – Fastenings**
KEY VOCABULARY	Climate, Dry climate, Exported, Imported, Mediterranean climate, Nationality, Nutrients, Polar climate, Recipe, Seasonal food, Seasons, Temperate climate, Tropical climate	Exploded-diagram, Function, Input, Lever, Linkage, Mechanism Motion, Net, Output, Pivot, Pneumatic system, Thumbnail sketch	Aesthetic Assemble Book sleeve Design criteria Evaluation Fabric Fastening Mock-up Net Running-stitch Stencil Target audience Target customer Template	Accurate, Applique, Cross-stitch, Cushion, Decorate, Detail Fabric, Patch, Running-stitch, Seam, Stencil, Stuffing, Target audience, Target customer, Template, Embellish, Pinking
SUBSTANTIVE KNOWLEDGE	**Knowledge – Eating Seasonally** • To know that not all fruits and vegetables can be grown in the UK. • To know that climate affects food growth. • To know that vegetables and fruit grow in certain seasons. • To know that cooking instructions are known as a 'recipe'. • To know that imported food is food which has been brought into the country. • To know that exported food is food which has been sent to another country. • To understand that imported foods travel from far away and this can negatively impact the environment. • To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre. • To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health. • To know safety rules for using, storing and cleaning a knife safely. • To know that similar coloured fruits and vegetables often have similar nutritional benefits.	**Pneumatic Toys** **Technical Knowledge** • To understand how pneumatic systems, work. • To understand that pneumatic systems can be used as part of a mechanism. • To know that pneumatic systems operate by drawing in, releasing and compressing air. **Additional Knowledge** • To understand how sketches, drawings and diagrams can be used to communicate design ideas. • To know that exploded-diagrams are used to show how different parts of a product fit together. • To know that thumbnail sketches are small drawings to get ideas down on paper quickly.	**Constructing a castle** **Technical Knowledge –** • To understand that wide and flat based objects are more stable. • To understand the importance of strength and stiffness in structures **Additional Knowledge** • To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose. • To know that a façade is the front of a structure. • To understand that a castle needed to be strong and stable to withstand enemy attack. • To know that a paper net is a flat 2D shape that can become a 3D shape once assembled. • To know that a design specification is a list of success criteria for a product.	**Knowledge - cross stitch and applique** • To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces. • To know that when two edges of fabric have been joined together it is called a seam. • To know that it is important to leave space on the fabric for the seam. • To understand that some products are turned inside out after sewing so the stitching is hidden.
MAKING CONNECTIONS **Key knowledge / key questions**	**Recall-Y2 A Balanced Diet** **Knowledge – a balanced diet** • To know that 'diet' means the food and drink that a person or animal usually eats. • To understand what makes a balanced diet. • To know where to find the nutritional information on packaging. • To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. • To understand that I should eat a range of different foods from each food group, and roughly how much of each food group. • To know that nutrients are substances in food that all living things need to make energy, grow and develop. To know that 'ingredients' means the items in a mixture or recipe. • To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy. To know that many foods and drinks we do not expect to contain sugar do; we call these 'hidden' sugars. **Cycle A/B** This links to Year 4 **Adapting a recipe** **Knowledge - Adapting a Recipe** • To know that the amount of an ingredient in a recipe is known as the 'quantity.' • To know that it is important to use oven gloves when removing hot food from an oven.	**Recall – Y2 Fairground Wheel** **Knowledge – Technical – Fairground wheel** • To know that different materials have different properties and are therefore suitable for different uses. **Knowledge – Additional** • To know the features of a Ferris wheel, include the wheel, frame, pods, a base an axle and an axle holder. • To know that it is important to test my design as I go along so that I can solve any problems that may occur **Knowledge – Technical - Making a Moving Monster** • To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. • To know that there is always an input and output in a mechanism. • To know that an input is the energy that is used to start something working. • To know that an output is the movement that happens as a result of the input. To know that a lever is something that turns on a pivot. • To know that a linkage mechanism is made up of a series of levers **Knowledge – Additional** • To know some real-life objects that contain mechanisms. **Cycle A/B** This links to Year 4 **Making a sling shot** **Knowledge – Making a Sling Slot** **Technical** • To understand that all moving things have kinetic energy.	**Recall- Y2 Baby bears chair** **Knowledge – Technical – Baby Bears Chair** • To know that shapes and structures with wide, flat bases or legs are the most stable. • To understand that the shape of a structure affects its strength. • To know that materials can be manipulated to improve strength and stiffness. To know that a structure is something which has been formed or made from parts. • To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move. • To know that a 'strong' structure is one which does not break easily. • To know that a 'stiff' structure or material is one which does not bend easily **Knowledge – Additional** • To know that natural structures are those found in nature. • To know that man-made structures are those made by people. **Cycle A/B** This links to Year 4 **Pavilions** **Knowledge – Pavilions** **Technical** • To understand what a frame structure is. • To know that a 'free-standing' structure is one which can stand on its own. **Additional Knowledge** • To know that a pavilion is a decorative building or structure for leisure activities. • To know that cladding can be applied to structures for different effects.	**Recall Y2- Pouches** **Knowledge – Technical – Pouches** • To know that sewing is a method of joining fabric. • To know that different stitches can be used when sewing. • To understand the importance of tying a knot after sewing the final stitch. • To know that a thimble can be used to protect my fingers when sewing **Cycle A/B** This links to Year 4 Fastenings **Knowledge Fastenings** • To know that a fastening is something which holds two pieces of material together for example a zipper, toggle, button, press stud and Velcro. • To know that different fastening types are useful for different purposes. • To know that creating a mock up (prototype) of their design is useful for checking ideas and proportions.



	• To know the following cooking techniques: sieving, creaming, rubbing method, cooling. • To understand the importance of budgeting while planning ingredients for biscuits	• To understand that kinetic energy is the energy that something (object/person) has by being in motion. • To know that air resistance is the level of drag on an object as it is forced through the air. • To understand that the shape of a moving object will affect how it moves due to air resistance. **Additional Knowledge** • To understand that products change and evolve over time. • To know that aesthetics means how an object or product looks in design and technology. • To know that a template is a stencil you can use to help you draw the same shape accurately. • To know that a birds-eye view means a view from a high angle (as if a bird in flight). • To know that graphics are images which are designed to explain or advertise something. • To know that it is important to assess and evaluate design ideas and models against a list of design criteria.	• To know that aesthetics are how a product looks. • To know that a product's function means its purpose. • To understand that the target audience means the person or group of people a product is designed for. To know that architects consider light, shadow and patterns when designing.	
Key Skills	**Design:** • Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish. **Make:** • Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination. • Following the instructions within a recipe. **Evaluate:** • Establishing and using design criteria to help test and review dishes. • Describing the benefits of seasonal fruits and vegetables and the impact on the environment. • Suggesting points for improvement when making a seasonal tart.	**Design:** • Designing a toy which uses a pneumatic system. • Developing design criteria from a design brief. • Generating ideas using thumbnail sketches and exploded diagrams. • Learning that different types of drawings are used in design to explain ideas clearly. **Make:** • Creating a pneumatic system to create a desired motion. • Building secure housing for a pneumatic system. • Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy. ▪ Selecting materials due to their functional and aesthetic characteristics. ▪ Manipulating materials to create different effects by cutting, creasing, folding and weaving. **Evaluate:** • Using the views of others to improve designs. • Testing and modifying the outcome, suggesting improvements. • Understanding the purpose of exploded-diagrams through the eyes of a designer and their client.	**Design:** • Designing a castle with key features to appeal to a specific person/purpose. • Drawing and labelling a castle design using 2D shapes, labelling –the 3D shapes that will create the features - materials needed and colours. • Designing and/or decorating a castle tower on CAD software. **Make:** • Constructing a range of 3D geometric shapes using nets • Creating special features for individual designs. • Making facades from a range of recycled materials. **Evaluate:** • Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison, to the original design. • Suggesting points for modification of the individual designs.	**Design** • Designing and making a template from an existing cushion and applying individual design criteria. **Make:** • Following design criteria to create a cushion or Egyptian collar. • Selecting and cutting fabrics with ease using fabric scissors. • Threading needles with greater independence. • Tying knots with greater independence. • Sewing cross stitch to join fabric • Decorating fabric using applique. • Completing design ideas with stuffing and sewing the edges (Cushions) or embellishing the collars based on design ideas (Egyptian collars). **Evaluate:** • Evaluating an end product and thinking of other ways in which to create similar items.
Key Assessment Opportunity	**Key Assessment Opportunity-lesson 4** Lesson 4 – application of skills and knowledge – creating a recipe	**Key Assessment Opportunity** Application - Designing and Making a pneumatic toy The assessment comes in week 3/ 4 – construction and testing and evaluation	**Key Assessment Opportunity** Lesson 4 – application of skills and knowledge – Designing and making a book cover inclusive of fastenings Week 4 – assembling the Book Sleeve	**Key Assessment Opportunity** Lesson 4 – application of skills and knowledge – design and make and use a collar using cross stitch and applique

Please click here for the Skills and Knowledge progression grids

Whole school Knowledge overview

Year 1 - knowledge overviews NEW.pdf

Year 2 - knowledge overviews NEW.pdf

Year 3 - knowledge overviews NEW.pdf

Year 4 - knowledge overviews NEW.pdf

Year 5 - knowledge overviews NEW.pdf

Year 6- knowledge overviews NEW.pdf

Planning

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:

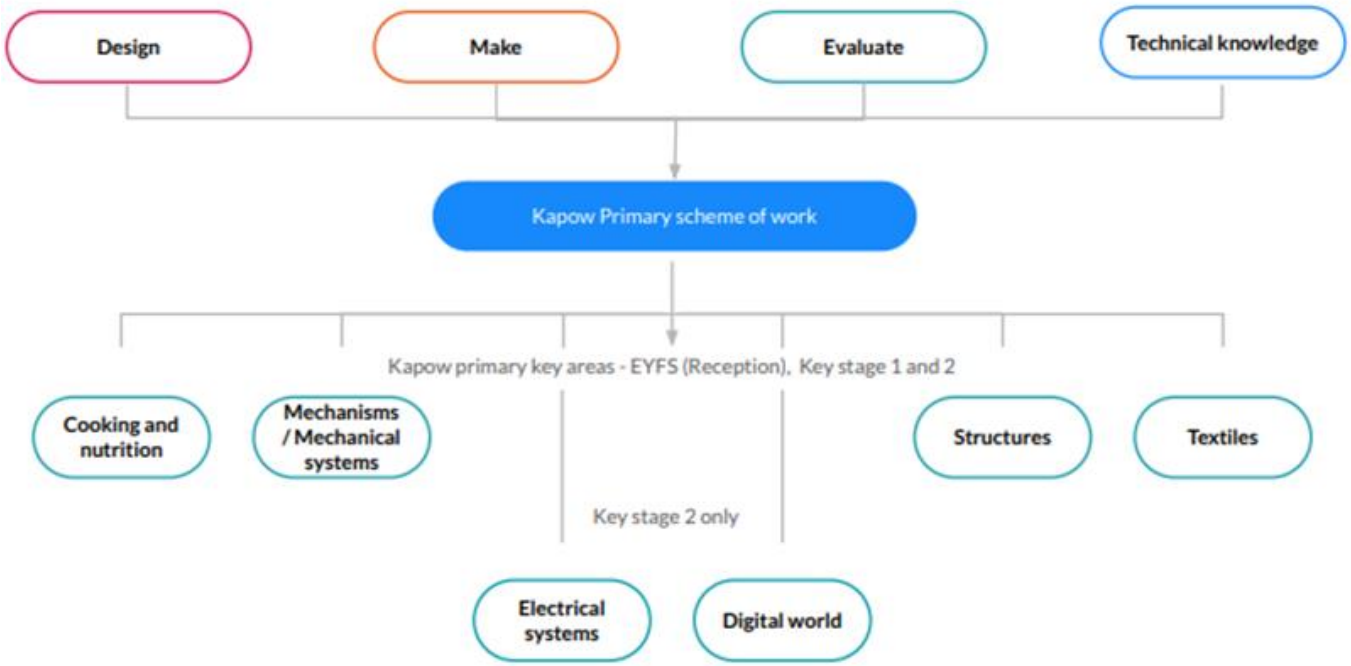
- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and 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 overview 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?



How does Kapow Primary help our school to meet statutory guidance for D&T?

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	Food
KS1	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: • Protect the circuitry. • Reflect light. • Conduct electricity. • Insulate.	**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.			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.

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.

Educational Visits and Cultural Capital

- In order to develop a broad, rich and deep DT education we believe children learn through experience. It is therefore considered essential to provide the children with hands on experiences, through educational visits. We aim to address this with suggestions on the two-year cycle with Educational visits, trips and real experience. We have links with BEA Systems and Blackpool and Fylde College.

Impact

Our children enjoy and value Design and Technology and know why they are doing things, not just how. Children will understand and appreciate the value of Design and Technology in the context of their personal wellbeing and the creative and cultural industries and their many career opportunities.

Impact within learning in Design and Technology is 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. This is further demonstrated through regularly Key Assessment Opportunities. These are used by staff to identify whether children are working towards, working at or working beyond Age related expectations. Teachers are given clear guidance to support with the Assessments for Learning Process.

Assessment

Assessment is on-going and is a vital tool to aid future planning. Children are assessed on their ability to develop ideas, master techniques and personalise inspiration. In KS1 and KS2, teachers will assess the children using the end of key stage expectations in DT (NC and progression in skills grids) and in the Foundation Stage children will be assessed using the Development Matters and Early Learning Goals document.

Teachers assess children's knowledge, understanding and skills in DT through the Key Assessment Opportunities. AfL Feedback given to children by their peers or teachers is in the form of post-it notes over the learning so that their DT is not marked in the process. Children are also encouraged to be critical of their own work, highlighting their own next steps. Teachers assess the Knowledge and skills delivered in the sequence of lessons, (unit)and this is used to track the individuals progress within DT. Assessment takes place within each unit of work, where each child will work towards completing a project and make a final product.

The **Key Assessment Opportunities** involve both looking at pupils' work, over time and at the outcomes identifying their progress against the key skills and knowledge. Progress will be shown through outcomes and through the important record of the process leading to them. This involves

- Observing how they perform in lessons
- Evaluating the outcome at the end of a topic
- Talking to the children about what they know.
- Key Assessment records

Please click here for examples of Key Assessment Opportunities


Assessment Year 1
Constructing a win


Assessment Year 2
making a Monster.p


Assessment Year 4
Adapting a recipe.p


Assessment Year 5
Monitoring Devices.

After the assessment grids have been updated, the Curriculum leader analyses the data and provides feedback to the Art leader in order to inform and improve future practice.

The Design and Technology curriculum will contribute to children's personal development in creativity, independence, judgement and self-reflection. This would be seen in them being able to talk confidently about their work, and sharing their work with others.

Evidence

- On line Floor books are also used to support the children's journey in Fantastic Friday and celebrate their work for that unit/topic
- Written or verbal feedback will be given on work.
- Facebook / Purple Mash will be use to document photo and digital media work in DT.

Reporting

- Children's progress and attainment will be reported to parents in their annual report. As a school, we report end of KS1 and end of KS2 attainment on pupil data sheets based upon the end of Key Stage outcomes.
- In EYFS parents are informed where the children's abilities lie in 'Expressive arts and design and Technology'.