



# Southfields Primary School

## Design and Technology Policy

**Date agreed: September 2022**

**Review Date: September 2024**

This policy, having been presented to, and agreed upon by the whole staff and Governors, will be distributed to:

- All teaching staff
- School governors

A copy of the policy will also be available in:

- The Staffroom
- The Head's office
- School web site

This will ensure that the policy is readily available to visiting teachers, support staff and parents.

Southfields Primary is totally committed to social justice and improving life chances for potentially vulnerable children. It is dedicated to sharing its work and findings beyond the school to improve outcomes for as many children as it can reach and has a particular specialism in Speech and Language development.

## Vision, Aims and Curriculum Intent

Our children are not statistics: they are the future. We will equip them with the skills and knowledge to shape their world and become happy, confident and productive members of society.

We are education explorers and will endeavour to:

- Ensure that all children receive a broad, balanced and 'first class' education.
- Create an interesting and stimulating environment, which reflects our values, promotes a sense of community and an individual sense of self-worth.
- Provide a differentiated curriculum which will enable all children, from the most-able to those with special educational needs, to make excellent progress.
- To enable our children to develop life skills, for an ever-changing world by continually evolving the curriculum.
- Promote social, cultural, moral and spiritual development, preparing children to be responsible citizens with British values.
- Encourage partnership with families and foster positive links with the community.
- Provide opportunities for children to develop independent enquiring minds and an enthusiasm for learning.
- Promote an understanding of the responsibility to sustain the local and global environment.
- To diminish the difference between pupil premium and disadvantaged children and their peers.
- To make links between social capital to become valued employees who contribute to the future

We believe the most effective way of achieving these aims is through the promotion of enquiry and curiosity, enthusiasm and challenge, sharing and learning together, the acceptance and embracing of differences, openness, respect and perseverance.

Our school aims to be an inclusive school where all children are welcome, feel happy and look forward to their school day. Every child is unique and we view those differences as opportunities for adults and children alike to learn more from each other.

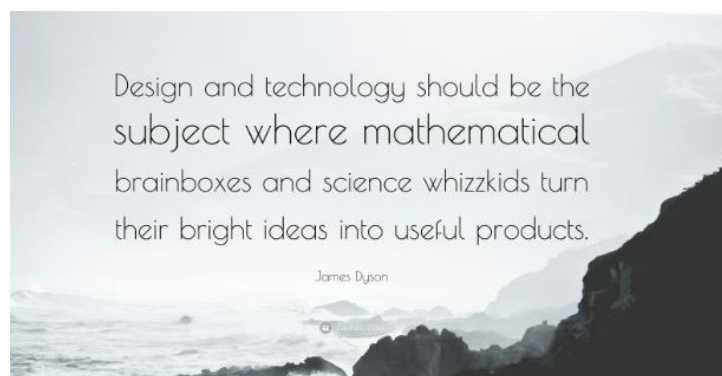
### 1. Design and Technology Key Principles

Teaching at Southfields Primary School is 'Learning Centred', meaning that each element of whole school and classroom practice is designed with an understanding of how children learn best at its heart.

We teach Design Technology through a variety of creative and practical activities. Pupils will be taught the knowledge, understanding and skills needed to engage in a frequent process of designing and making. We ensure that the planned activities our children undertake are challenging, motivating, relevant and enjoyable.

At Southfields Primary School we believe children learn best when:

- Learning activities are well planned, ensuring progress in the short, medium and long term
- Teaching and learning activities enthuse, engage and motivate children to learn, and foster their curiosity and enthusiasm for learning
- Assessment informs teaching so that there is provision for support, overlearning as well child-initiated extensions to apply learning for each child, at various levels.
- The learning environment is ordered, the atmosphere is purposeful and children feel safe
- There are strong links between home and school, and the importance of parental involvement in their children’s learning is recognised, valued and developed



## 2. Intent

Southfields Primary school and the Kapow scheme of work we have adopted 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. Effective planning and teaching supports pupils to meet the end of key stage attainment targets in the national curriculum.

## 3. 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 five subheadings or strands:

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

Southfields' long term planning and coverage mapping has a clear progression of skills and knowledge within these five strands across each year group. Our National curriculum mapping shows which of our units cover each of the National curriculum attainment targets as well as each of the five strands. Our Progression of skills shows the skills 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 or coverage.

Throughout the units covered, children will respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in six key areas:

- Mechanisms
- Structures
- Textiles
- Cooking and nutrition (Food)
- Electrical systems (KS2)
- Digital world (KS2)

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 that we follow as a school 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.

## 4. Long Term Overviews

Our long term plan combines both DT and Art in a long term overview. This allows for the subjects to be alternated through the term – focusing on one subject per each half term. This enables full immersion and coverage of both subjects and ensures time constraints do not result in missed learning.

### Key Stage 1

|          | Year 1  | Year 2   |
|----------|---|--|
| Autumn 1 | <b>Structures: Constructing windmills</b><br>(4 lessons)<br>Designing, decorating and building a windmill for their mouse client to live in, developing an understanding of different types of windmill, how they work and their key features.  | <b>Formal elements of art</b><br>(5 lessons)<br>Exploring the formal elements of art: pattern, texture and tone; children create printed patterns using everyday objects; take rubbings using different media and learn how to make their drawings three dimensional.  |
| Autumn 2 | <b>Art and design skills</b><br>(5 lessons)<br>Learning two different printing techniques, using 2D shapes to explore a variety of media, mixing different shades of one colour and discussing the work of artist Louis Wain.   | <b>Structures: Baby bear's chair</b><br>(4 lessons)<br>Using the tale of Goldilocks and the Three Bears as inspiration, children help Baby Bear by making him a brand new chair. When designing the chair, they consider his needs and what he likes and explore ways of building it so that it is strong.     |
| Spring 1 | <b>Textiles: Puppets</b><br>(4 lessons)<br>Exploring different ways of joining fabrics before creating their own hand puppets based upon characters from a well-known fairytale. Children work to develop their technical skills of cutting, glueing, stapling and pinning.                 | <b>Sculpture and mixed media</b> (5 lessons)<br>Creating sculpture, pop art and learning how to draw facial features to portray different emotions, all through the topic of comic superheroes and inspired by the works of Roy Lichtenstein.  |
| Spring 2 | <b>Formal elements of art</b><br>(5 lessons)<br>Exploring three of the formal elements of art: shape, line and colour, children will mix and paint with secondary colours; use circles to create abstract compositions and work collaboratively to create art inspired by water.            | <b>Mechanisms: Fairground wheel</b><br>(4 lessons)<br>Designing and creating their own Ferris wheels, considering how the different components fit together so that the wheels rotate and the structures stand freely. Pupils select appropriate materials and develop their cutting and joining skills        |
| Summer 1 | <b>Food: Fruit and vegetables</b><br>(4 lessons)<br>Handling and exploring fruits and vegetables and learning how to identify which category they fall into, before undertaking taste testing to establish their chosen ingredients for the smoothie they will make a design packaging for. | <b>Art and design skills</b><br>(6 lessons)<br>Replicating the recognisable crockery of Clarice Cliff, exploring tone through shading, developing weaving skills, the manipulation of clay and experimenting with brush strokes.   |
| Summer 2 | <b>Landscapes using different media</b><br>(5 lessons)<br>Learning about composition and working with different art materials to create texture. Based on the theme of The seaside with support for adapting to the alternative theme of Castles.   | <b>Mechanisms: Making a moving monster</b><br>(4 lessons)<br>After learning the terms: pivot, lever and linkage, children design a monster which will move using a linkage mechanism. Children practise making linkages of different types and varying the materials they use to bring their monsters to life. |

### Lower Key Stage 2

|          | Year 3   | Year 4  |
|----------|--|---|
| Autumn 1 | <b>Food: Eating seasonally</b><br>(4 lessons)<br>Discovering when and where fruits and vegetables are grown. Learning about seasonality in the UK and the relationship between the colour of fruits and vegetables and their health benefits by making three dishes.           | <b>Art and design skills</b><br>(6 lessons)<br>Creating an optical illusion print, replicating a plate in the famous willow pattern, carving sculptures out of soap, drawing a collection of still life objects, painting and mixing colours and learning about the role of a 'curator'.    |
| Autumn 2 | <b>Prehistoric art</b><br>(5 lessons)<br>Experimenting with charcoal, berries, leaves, homemade paints and more, children get a sense of what it was like to create art thousands of years ago and why these pieces were created.  | <b>Structure: Pavilions</b><br>(4 lessons)<br>Exploring pavilion structures, children learn about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.                              |
| Spring 1 | <b>Digital world: Electronic charm</b><br>(4 lessons)<br>Designing, coding, making and promoting a Micro:bit electronic charm to use in low-light conditions. Children develop their understanding of programming to monitor and control their products.                       | <b>Formal elements of art</b><br>(Lessons 1, 2, 3, 4 only)<br>Exploring two of the formal elements of art: texture and pattern; developing a range of mark-making techniques, making and using their own textured stamps for printing and draw a 'flip' pattern.                            |
| Spring 2 | <b>Formal elements of art</b><br>(5 Lessons)<br>Exploring two of the formal elements of art: shape and tone; children find shapes in everyday objects; use shapes as guidelines to draw accurately from observation and create form and shape using wire.                      | <b>Mechanical systems: Making a slingshot car</b><br>(4 lessons)<br>Transforming lollipop sticks, wheels, dowels and straws into a moving car. Using a glue gun to, making a launch mechanism, designing and making the body of the vehicle using nets and assembling these to the chassis. |
| Summer 1 | <b>Structures: Constructing a castle</b><br>(4 lessons)<br>Learning about the features of a castle, children design and make one of their own. Using configurations of handmade nets and recycled materials to make towers and turrets and constructing a base to secure them. | <b>Every picture tells a story</b><br>(5 lessons)<br>Analysing works of art, creating photo collages and abstract art inspired by the works explored.   |
| Summer 2 | <b>Craft</b> (4 lessons)<br>Learning to tie-dye, weave and sew to create a range of effects using fabric.<br><b>Art and design skills</b> (Lessons 2 and 3 only)<br>Completing a drawing from observation and learning the difference between a tint and a shade.              | <b>Electrical systems: Torches</b><br>(4 lessons)<br>Applying their scientific understanding of electrical circuits, children create a torch, designing and evaluating their product against set design criteria.   |

## Upper Key Stage 2

|          | Year 5   | Year 6   |
|----------|--|--|
| Autumn 1 | <p><u>Electrical systems: Electronic greetings cards</u><br/>(4 lessons)<br/>Exploring how circuits can be adapted to suit different purposes, children explore series circuits and recreate one using conductive adhesive tape. They then apply this knowledge to design and create an electronic greeting card.</p>        | <p><u>Photography</u><br/>(5 lessons)<br/>Developing photography skills, exploring composition, colour, light, abstract images and underlying messages.</p>  |
| Autumn 2 | <p><u>Formal elements of art: Architecture</u><br/>(5 lessons)<br/>Learning how to draw from observation, creating a print and drawing from different perspectives. Learning about the role of an architect and considering why houses look the way they do and if there is scope to change and improve them.</p>            | <p><u>Textiles: Waistcoats</u><br/>(4 lessons)<br/>Selecting suitable fabrics, using templates, pinning, decorating and stitching to create a waistcoat for a person or purpose of their choice.</p>   |
| Spring 1 | <p><u>Mechanical systems: Making a pop-up book</u><br/>(4 lessons)<br/>Creating a four-page pop-up storybook design incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacers.</p>   | <p><u>Make my voice heard</u><br/>(5 lessons)<br/>Looking at the works of artists Picasso and Kollwitz and, through the mediums of graffiti, drawing, painting and sculpture, creating their own artworks that speak to the viewer.</p>  |
| Spring 2 | <p><u>Every picture tells a story</u><br/>(5 lessons)<br/>Analysing the intentions of the artist Banksy; creating symmetry ink prints inspired by psychologist Rorschach; telling a story using emojis; recreating a poignant war scene through drama and creating art inspired by the ceramic work of Magdalene Odundo.</p> | <p><u>Structure: Playgrounds</u><br/>(4 lessons)<br/>Designing and creating a model of a new playground featuring five apparatus, made from three different structures. Creating a footprint as the base, pupils visualise objects in plan view and get creative with their use of natural features.</p> |
| Summer 1 | <p><u>Food: What could be healthier?</u><br/>(4 lessons)<br/>Researching and modifying a traditional bolognese sauce recipe to make it healthier. Children cook their healthier versions, making appropriate packaging and learn about farming cattle.</p>   | <p><u>Still life</u><br/>(5 lessons)<br/>Creating a variety of pieces influenced by different artists using a range of mediums and using charcoal, erasers and paint to depict a composition of special objects.</p>   |
| Summer 2 | <p><u>Design for a purpose</u><br/>(5 lessons)<br/>Designing to a specific criteria or specification, developing design ideas for a room interior, a coat of arms and product to fit a given name, learning to draw inspiration from different sources and experiment with a range of techniques.</p>                        | <p><u>Digital world: Navigating the world</u><br/>(4 lessons)<br/>Programming a navigation tool to produce a multifunctional device for trekkers. Combining 3D objects to form a complete product in CAD 3D modelling software and presenting a pitch to 'sell' their product.</p>                       |

## 5. Impact

The impact of our Design and Technology teaching is continually assessed through both formative and summative assessment opportunities. Each lesson plan 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 is that children will:

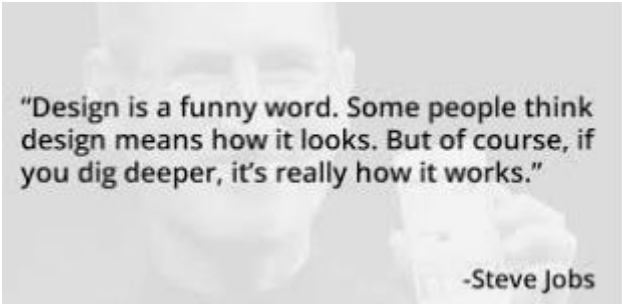
- Understand the functional and aesthetic properties of a range of materials and resources.
- Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products.
- Build and apply a repertoire of skills, knowledge and understanding to produce 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.

## 6. SMSC in Design and Technology

The teaching of Design & Technology at Southfields offers opportunities to support the social development of our children through the way we encourage them to work with each other in lessons. We allow children to work together, and give them the chance to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in Design & Technology, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, and they learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.



"Design is a funny word. Some people think design means how it looks. But of course, if you dig deeper, it's really how it works."

-Steve Jobs