

## Sutton on the Forest CE School

### Design and Technology: Intent, Implementation and Impact 2022-23

#### Intent

Our aim in Design Technology is 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.

At Sutton, our programme of study is carefully organised for each year group through a long term plan. We intend for our children to experience and have a good understanding of the process of design, make, evaluate through the key areas of structures and mechanisms, textiles, food and nutrition and, in KS2, the digital world and electronics.

In all Design and Technology activities and lessons, we aim to promote our core values of RESPECT, FRIENDSHIP, COMPASSION and PERSEVERANCE. These are demonstrated by all adults and commended in children. For example, we demonstrate friendship when working collaboratively, we show compassion when designing products for a purpose, we persevere when learning new skills and mastering techniques and we show respect when evaluating our own and other's work.

#### Implementation

We use the Kapow Primary DT scheme of work throughout our curriculum for years 1 - 6. This scheme has been written by experts in their field and is designed to meet the National Curriculum end of Key Stage targets.

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.

Through Kapow's Design and Technology scheme, children respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in six key areas:

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

Each of these 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 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. Teachers will be informed by previous assessments when planning lessons and Kapow provides differentiated guidance to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required.

A whole school display board reflects areas of study on a termly basis, showing both the process of experimentation and skill based learning as well as sharing final outcomes, of which children are very proud. This is then collated into a display book, so learning can be revisited, discussed, shared and enjoyed throughout the year. Work is also displayed in classrooms and shared with the wider community via our Facebook page.

Design and Technology has a combined long-term plan with art with each being taught for three half terms a year, in some cases linked to the topic of study for that term.

In foundation stage the children:

- Have daily opportunities to make their own creations using a wide range of different materials, fixings and tools which are freely available in continuous provision.
- Are taught how to use tools such as scissors, hole punch, string, sellotape, cutters etc.
- Are encouraged to talk about what they would like to make, how they will do it and what they think about it when it is finished.
- Are encouraged to evaluate what they have made and make changes as appropriate.

Throughout the school, assessment is ongoing, via observations of each process in lessons, quizzes and recall activities. Summative assessment is completed at the end of each unit via scrutiny of end products against the design criteria. In Early Years this is done via the baseline assessment, mid year and end of year profile and also via analysis of work on Tapestry. Achievements are formally recorded via the Impact tracker. This is completed as either meeting national expectations (EX) or working towards (WT) or in exceptional circumstances exceeding (GD). Curriculum leads and class teachers will also use this information to inform future planning to meet the needs of our children appropriately and to inform teachers and school leaders of possible areas for development.

We use See-Saw to document and track each unit of work, to ensure there is full coverage of the National Curriculum.

### Impact

At Sutton on the Forest, children's work demonstrates that Design and Technology is taught at an age appropriate standard across each year group with opportunities planned in for pupils working towards expectations and at greater depth. Work is of high quality and demonstrates pupils are acquiring knowledge, skills and vocabulary in an appropriate sequence. Children can talk with knowledge and excitement about their learning and are hugely proud of their Design and Technology products and achievements.

The expected impact of following the Kapow Primary Design and technology scheme of work 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.

The effectiveness of the Kapow scheme will be assessed regularly by the curriculum lead and senior management, via discussions with staff and children, work scrutiny and ensuring children are meeting end of key stage expectations on the Impact tracker.