Mendlesham Primary School

Design and Technology

Intent

At Mendlesham Primary School, we believe that Design and Technology should be *inspiring, rigorous and practical.* It will allow children to use their imagination and creativity to design and make a range of products within a variety of contexts. We aim 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. Alongside this, we aim to improve children's **oracy skills**, providing them with the language skills and vocabulary required to share their ideas, enhance the designing phase through working with others and edit, and improve their ability to evaluate their work.

Implementation

The teaching of DT across the school will be through the Kapow scheme of work, a spiral scheme designed to increase the depth of knowledge and build on prior learning throughout primary school. DT is taught as part of a rolling programme to allow for our mixed-aged classes, building on previous knowledge and skills. Kapow allows children to design products with a purpose in mind and an intended user of the products.

A carefully planned long-term plan ensures children cover a wide range of strands of DT:

MECHANICAL SYSTEMS	STRUCTURES	COOKING AND NUTRITION	TEXTILES	ELECTRICAL SYSTEMS (from KS2)

Each unit is structured around the skills of:

DESIGN	MAKE	EVALUATE	TECHNICAL KNOWLEDGE

Full details of our curriculum can be found on our website.

Most DT units will be delivered during an enriched focus day as a block of learning to enable immersion in learning and making best use of curriculum time, due to the practicalities of delivering practical and technical learning in a regular classroom environment. This also gives an opportunity for raising the profile of the subject across the schools with all pupils completing projects at the same time celebrating their work together. With a focus on children's **oracy** skills, to aid vocabulary acquisition, children will be provided with sentence stems, technical vocabulary and support with the vocabulary of evaluation. They will be able to share their work with others, including teachers, peers and parents.

Children revisit previous learning to strengthen retention of key knowledge and technical vocabulary, along with the aid of sentence stems.

Powerpoint will be used as working documents to record learning, with objectives, key learning and photographs of the stages of the children's projects being collated. These can then be used with pupils when revisiting previous learning. Some assessment will also be recorded within these, with children judged against the unit objectives termly.

Strong subject knowledge is vital for staff to be able to deliver a highly effective and robust curriculum. Each unit of Kapow lessons includes multiple teacher videos to develop subject knowledge and support ongoing CPD. Every effort has been made to ensure that teachers feel supported to deliver lessons of a high standard that ensure pupil success and progression. The subject leader monitors curriculum implementation through Powerpoint working document reviews, pupil discussions, staff discussions and lesson visits. Findings are used to continually refine the curriculum, support staff and improve outcomes for pupils.

<u>Inclusion and Vulnerable Learners</u>

We ensure that all pupils, including those with SEND, disadvantaged pupils and those who are new to English, are supported to access the DT curriculum through adaptive teaching, carefully selected resources, scaffolding and practical experiences that enable success for all. Adaptive teaching enables pupils with SEND to access the same ambitious curriculum aims as their peers while receiving support appropriate to their

individual needs, and removing barriers for learning. Adaptations may include adjustments to plans, increased scaffolding, simplified plans and as well considering real-world relevance. Through carefully planned learning experiences, practical exploration and appropriate levels of support and challenge, every child develops the confidence to design, make, evaluate and improve their work.

EYFS

The prerequisite skills related to Design and Technology are most closely aligned to Physical Development and Expressive Arts and Design areas of the EYFS curriculum. With a focus on **oracy skills**, Communication and Language is also important to our DT curriculum.

Within Physical Development, Development Matters (Non-statuatory guidance for the EYFS) suggests children will: practice their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons.

Within Expressive Arts and Design, Development Matters suggests children will: Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.

In regards to Communication and Language, children will also be taught to: use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.

Teaching in the EYFS will ensure coverage of all of these areas through a variety of design projects, providing many opportunities for developing skills in these areas. Topics change each year based on a number of factors, but examples of DT projects include: designing houses and homes; building bridges; designing and making a healthy picnic; moving parts robots; junk modelling; creating a home for a pet.

Impact

The impact of the Kapow 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, 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.

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 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.

Assessment from each unit will be collected and be tracked through the school's tracking system (Insight). Assessment information, pupil voice, lesson visits and work scrutiny are used collectively to evaluate curriculum effectiveness and identify areas for improvement.

With a focus on **oracy skills,** children can confidently recall and apply previously taught DT knowledge and skills when completing new design challenges. They use technical vocabulary accurately and demonstrate increasing independence in the design, make and evaluate.