Design and Technology

Intent

At Wren Park our vision for Design and Technology is:

The design and technology scheme of work aims to inspire pupils to be ambitious and creative thinkers who have an appreciation for the product design cycle through ideation, creation and evaluation. In this subject, 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. The children are taught to develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world, as well as learning and developing their cooking and baking skills, nutritional knowledge and how to apply this to their everyday lives.

By looking at local designers, inventors and developments, the children will understand design and technology's impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation's future. Pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They understand the purpose for making by following a design brief linked to something local or within the context of their topic. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. 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. Pupils learn to become resourceful, innovative, enterprising and capable young people.

Our design and technology scheme of work enables pupils to meet the end of key stage attainment targets in the National Curriculum. The EYFS units provide opportunities for pupils' to work towards the Development matters statements and the Early Learning Goals. Additionally, all children are taught to build on prior knowledge and apply this repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.

Implementation

We translate this into practice by:

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.

These subheadings have become our DT school 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)

We follow Kapow Primary's Design and Technology scheme (combined with Art). This has a clear progression of skills and knowledge within these strands and key areas across each year group. The National Curriculum overview shows which of the units cover each of the National Curriculum attainment targets as well as each of the four strands. The 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 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 the key

Impact

We know this works for our pupils through:

The impact of the design and technology curriculum 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 we used at the start and/ or end of the unit.

After the implementation of Kapow design and technology, pupils at Wren Park leave school equipped with a range of skills to enable them to succeed in their secondary education and be innovative, resilient and resourceful members of society.

The expected impact of Design and Technology at Wren Park 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 local 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.

At the centre of our curriculum design, we aim to foster a love of design and technology, encourage children's creativity and enhance their critical thinking, observations and resilience. We want to equip our children with understanding of safe practices, knowledge of the whole design process and to develop a love for STEM subjects. Where possible, design and technology lessons link to topics from across the curriculum and is highly valued as part of our broad and balanced curriculum, where all children have the opportunity to shine.	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 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. At Wren Park, we know that strong subject knowledge is vital for staff to be able to deliver a highly effective and robust design and technology curriculum. Therefore, each unit of lessons includes multiple teacher videos to develop subject knowledge and support ongoing CPD and staff make use of these.	