Design and Technology at St Michael's School

At St Michael's we want our children to love design technology. We want them to have no limits to what their ambitions are and grow up knowing they could be architects, graphic designers, chefs or carpenters.

Intent

The Design Technology curriculum has been carefully crafted so that our children develop their design and technology capital. Early in their learning journey, children have the opportunity to master and use a range of basic skills which enable them be designers, engineers or chefs right from the start. Children are encouraged to apply and use their growing skills and knowledge to solve a range of problems as they move through the school. Having the resilience to cope when things go wrong and when they find flaws in their designs is central to the way the subject is taught – helping them to understand that very few designers have got things right first time!

We want to equip them with not only the minimum statutory requirements of the Design Technology National Curriculum but to prepare them for the opportunities, responsibilities and experiences of later life. Wherever we can, links are made to 'real-life' professions and contexts to give the children a sense of purpose when engaged in their work.

We want our children to remember their DT lessons in our school, to cherish these memories and embrace the DT opportunities they are presented with!

We achieve this by providing a rich, diverse curriculum, underpinned by our school's core values of Respect, Honesty and Love, enabling every member of the school community to have a 'Lifetime Love for Learning'.

Implementation

At St Michael's School, the children experience three DT projects each year which have been selected to provide them with skills they need to be successful in life and in their future education.

The DT curriculum is organised into key concepts: Designing, Making, Evaluating and Technical Knowledge/Understanding. Throughout their DT journey at school, children revisit key concepts to build on prior knowledge and skills, ensuring that they have the opportunity to make links and develop their understanding. We believe that it is these concepts that help children and teachers to understand what being an engineer or chef is all about.

As the children move through the school, they will have the opportunity to develop their technical knowledge (e.g sewing). However, children will always learn the core concepts of '*Designing, Making and Evaluating*' which feature in every taught unit. This enables children to commit key knowledge and skills to their long-term memory and foster a Lifetime Love for Design Technology.

In Early Years, children develop the foundations for Design Technology. The children learn how to use a range of small tools and build up their dexterity/coordination through weighing, mixing stirring and mashing. Through a Continuous Provision approach, the children are constantly involved in construction using a range of resources and solving problems in their play. They also develop a basic understanding of healthy food choices and food hygiene. This paves the way into the National Curriculum.

During their time in KS1, the following themes are covered at least once: mechanisms, food and nutrition, structures and textiles. Lessons are taught throughout the year, every other week, alongside the rich Continuous Provision environment. This enables children to explore concepts, develop and test ideas, foster a love for DT and commit knowledge to their long term memory. In addition children are explicitly taught a range of skills which they use throughout Continuous Provision. Children in Year 1 are taught how to use a saw to cut wood and use a hot glue safely and effectively. They are also taught how to make their own healthy snack using chopping, slicing, peeling and grating, as well as basic stitching and weaving skills. When the children move to Year 2, they are taught how to join materials using drilling, screwing and nailing.

In KS2, the following themes are covered at least twice: mechanisms, electrical systems, structures, textiles and food and nutrition. Units are taught in blocks which ensures the progression of practical skills and the retention of knowledge in long-term memory.

At St Michael's, units of work are centred around teaching the children the process of being problems solvers, designers and engineers. Where possible, they solve a 'real and relevant problem' where the children have the opportunity to create a product that can be tested and subsequently evaluated. Also, where possible, units of work are linked to a high quality text.

Initially, children explore, investigate and evaluate existing products as well as the work of significant designers throughout history. Following this, children have the opportunity to learn new skills, experiment with materials and evaluate their use of materials and tools. At this point, children start to use their knowledge and skills to design, make and evaluate their products, starting with simple prototypes up to a finished product. The focus of this is to provide an iterative process where children can design, make, test and evaluate products in a meaningful way.

If possible, teachers take advantage of experts within the school and village community, for example, visit the local garage to gain a deeper understanding of mechanisms.

Teachers are provided with a Curriculum Map and Knowledge Webs to ensure all children are progressing their DT learning skills and are taught the appropriate skills at the right time in their DT learning journey. The Knowledge Webs identify what knowledge and skills to assess and how to do this.

Impact

As a result of high-quality provision, children make good progress, building knowledge and skills as they move through school. They develop a passion and enthusiasm for design and technology and gain satisfaction from creating and improving their original designs, using an iterative process. Our children value the process that leads up to their final product, giving them the resilience and confidence to refine and modify their work throughout the project. By developing their creativeness, technical and practical expertise, children are able to complete tasks confidently. Children become creative problem solvers and thinkers as individuals and as part of a team, they are able to consider alternative materials specific to a particular purpose and with an intended user in mind. Children at St Michael's are reflective, innovative and enterprising designers and 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.