Design & Technology at Chesterfield

At Chesterfield we are designers! We provide our pupils with the imaginative, innovative skills to research, experiment, invent and design their own work whilst gaining a vast technological knowledge across this diverse subject. We want children to have no limits to what their ambitions are and grow up wanting to be architects, graphic designers, chefs or carpenters.

We encourage the children to use their creativity and imagination to design and make products that solve real and relevant problems considering opportunities as well as their own and others' needs. Our curriculum is linked closely with the history of the great designers who influenced the world globally in the past as well as the current innovative designers whose imaginative thinking has affected our lives today.

As part of their work with food, pupils are taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably, now and in later life. Our Edible Playground is a vibrant outdoor teaching garden that inspires hands-on learning and gets children excited about growing and eating healthy food. It also helps to improve the children's health and wellbeing whilst providing a fun outdoor learning environment that supports cross-curriculum teaching.

Our curriculum drivers of communication, oracy, reading, aspirations and inclusion for all shape every aspect of D&T, are embedded in teaching and learning and develop the child as a whole.

At Chesterfield, we are designers:

By the end of their primary education our children will:

- Develop creativity, risk taking and innovation to become enterprising and capable citizens.
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users that solve real and relevant problems.
- Use and understand a range of technical vocabulary associated with this subject.
- Select appropriate tools and techniques for making a product, whilst following safe procedures.
- The ability to talk about how things work, and to draw and model their ideas.
- Develop the skills needed to prepare and cook healthy food understanding the principles of nutrition.

Design & Technology in the EYFS:

In the EYFS children are given opportunities to:

- Make plans to express their own ideas and construct with a purpose in mind, using a variety of resources.
- Use what they know about different media and materials in original ways, not being afraid to explore and try new things.
- Learn how to use simple tools and techniques appropriately, effectively and safely
- Identify healthy foods and learn how to prepare some foods hygienically.

How do we implement our Design & Technology curriculum:

- The children at Chesterfield have the opportunity to develop their skills in mechanisms, structures, textiles, mechanical systems, electrical systems and cooking and nutrition.
- From Year 1 to Year 6, children have three D&T units across the year.
- The teaching of D&T across the school follows the National Curriculum through the use of Design and Technology Association's 'Projects On A Page'.
- Teachers plan sequences of lessons across the half term that will build on and develop the children's skills culminating in a final piece. Children design products with a purpose in mind and an intended user of the products.
- Opportunities to practise and embed skills are planned for so that they are revisited and refined over time.
- The knowledge and skills that children will develop throughout each D&T topic are mapped across each year group and across the school to ensure progression.
- Food technology is implemented across the school with children developing an understanding of where food comes from, the importance of a varied and healthy diet and how to prepare this.
- Workshops and trips are encouraged throughout units to strengthen and deepen children's understanding. These visits not only enhance their learning experiences but also their cultural awareness.
- We use displays and D&T exhibitions to celebrate achievement and support teaching and learning.
- Our principal aim is to develop the children's knowledge, skills and understanding in design and technology within a creative curriculum.
- At Chesterfield we believe children learn best when they:
  - Have opportunities to stimulate their creativity and imagination by providing visual, tactile and sensory experiences.
  - Build upon real life skills and understand and apply the principles of nutrition and learn how to cook.
  - Access to resources such as books and photographs
  - Are shown, or use independently, resources from the internet and videos
  - Are able to use non-fiction books for research
  - Are provided with opportunities to work independently or collaboratively.

Planning:

- The D&T Long Term Plan identifies the units to be covered each term. It also identifies where there are opportunities to revisit and connect children's previous learning and experiences. This strengthens understanding and helps build long-term memory.
- Teachers link prior knowledge to the new learning to deepen children's thinking. They plan sequences of lessons across the unit that will build on and develop the children's knowledge and skills.
- We use short term plans to set out the learning objectives for each lesson as well as the activities and resources that will be used to achieve the LO.
- The teaching of D&T follows the design, make and evaluate cycle, with technical knowledge and relevant vocabulary shared at each stage.
- Consideration is given to how greater depth will be challenged within each lesson, as well as how learners will be supported in line with the school's commitment to inclusion. Adaptation and challenge is evident and planned for in every lesson.
- We have a wide range of resources to support the teaching of D&T. All resources are stored in the creative hub.

Teaching:

- The teaching of D&T follows the design, make and evaluate cycle, with technical knowledge and relevant vocabulary shared at each stage.
- The design process is always linked to relevant contexts to give meaning to the learning. When making their products, the children are given choice and a wide range of tools and materials to choose from. When evaluating, the children are taught to evaluate their own products against the initial design criteria to see how well it has met the needs and wants of the intended user and to identify any changes that could be made.
- At the start of the lesson, children will take part in a short retrieval 'flashback' task where they will be required to retrieve previously gained knowledge/skills. The children may have acquired this knowledge/skill in a previous lesson, unit of work or even a previous year group. This task is designed to strengthen our pupils' memories of key knowledge/skills, enabling them to permanently remember and make progress across the curriculum.
- Sketchbooks are used for children to record and explore ideas, develop skills, be inventive and explore the work of other designers.
- New techniques and skills are modelled and examples are shown to the children. Children will be taught to use materials, tools and equipment safely. Teachers will closely supervise the use of tools and equipment; sharp tools will be introduced appropriately as pupils mature.
- Flexible groupings are used during lessons e.g. mixed ability groups, paired work, guided and independent work and whole class work.
- Opportunities to develop core English skills are exploited through research and reporting as well as the learning of new vocabulary.

Assessment and feedback:

Assessment for learning is continuous throughout the planning, teaching and learning cycle.

Assessment is supported by use of the following strategies:

- Teachers use the outcomes in the sketchbooks to assess on-going attainment and progress.
- Effective feedback, which has caused thinking to take place.
- End of unit knowledge quizzes assess learning and provide the opportunity for children to show what they know.
- Flashback tasks to ensure retrieval of previously learnt material or skills.
- Assessment criteria on final pieces of work.

Feedback:

- Key vocabulary for the subject to be corrected in green pen alongside common exception words for that year group.
- Children's work should be looked at and assessed before the next lesson.
- Children to self/peer assess their work regularly. Children should write their comments on post-it notes to avoid writing directly on another child's piece of work.
- Teachers should conference with each child to address misconceptions or to extend the children's learning. Children indicate this with 'PC'.
- At the end of a unit, children will plan and create a final piece of work. Both the teacher/child will reflect on the knowledge and skills they have developed throughout the unit, this is to be evident on the assessment criteria (toolkit).

How do we evaluate learning in D&T?

- The impact and measure of our Design and technology curriculum is to ensure that children at Chesterfield are equipped with the progressive skills and knowledge of the importance of design locally and globally.
- The knowledge that the children have gained will enable them to reason with the design and technology curriculum at Key Stage 3 and for life as an adult in which design and technology is so widely relied upon.
- The impact of our D&T curriculum can clearly be seen in the children's sketchbooks and models.

The Deputy Head and the D&T subject leader monitor the impact of the curriculum using a variety of strategies.

- Scrutiny of sketchbooks
- Progress within final pieces of work
- Pupil voice
- Learning walks
- The priorities set out in the D&T action plan are monitored and the targets set are reported upon to ensure the desired impact upon our pupils is achieved.
- Moderation staff meetings where pupil's books are scrutinised and there is the opportunity for a dialogue between teachers to discuss the impact of our Art and Design curriculum.

All of this information is gathered and reviewed. It is used to inform further curriculum developments and provision is adapted accordingly.