

D&T at SMAB



Intent

Design and Technology is an inspiring, rigorous and practical subject. Using creativity and imagination, 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.

At St Michael at Bowes we aim to develop children's capability to create high quality products through combining their designing and making skills with knowledge and understanding while developing a sense of enjoyment and pride in their ability to make. We aim to nurture creativity and innovation and develop an interest and understanding of the ways in which people from the past and present have used design to meet their needs.

D&T is valued as a life skill and children are often set open-ended tasks to encourage them to develop their own ideas and work collaboratively.

Curriculum

In KS2 children will build on the skills taught in KS1 using the same cycle of; investigate, Design, Make and Evaluate. Units of work will deepen pupils' knowledge of; structures, textile design, healthy cooking and food origin and develop their skills in mechanisms and electrical systems to create movement.

Investigate

- investigate and analyse a range of existing products
- understand how key events and individuals in design and technology have helped shape the world
- generate, develop, model and communicate their ideas on how products work through discussion, annotated sketches, cross-sectional and exploded diagrams,

Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- use prototypes, pattern pieces and computer-aided design Make
- select from and use a wider range of tools and equipment to perform practical tasks accurately
- select from and use a wider range of materials and components, according to their functional properties and aesthetic qualities
- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products

Evaluate

- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Monitoring

Monitoring is carried out by subject leader and SLT during the school year. This will include

- Learning walks during D&T lessons
- Book looks
- Pupil voice

Resources:

- A dedicated Creative Hub
- Resources are stored in a central location for use in DT lessons
- Teachers are encouraged to add resources based on feedback from the children and the tools they have selected.

Teaching

- Design and technology is taught through the Kapow scheme and where possible is linked with our topics in the HEP curriculum or linked to Science to make the learning cross-curricular and more meaningful.
- The national curriculum requires that children develop skills in designing, making, evaluating their own and others work and that they learn technical knowledge.
- D&T lessons are taught weekly every other half term. These units alternate with Art.
- Flexible groupings are used during lessons e.g. ability and mixed ability groups, paired work, guided and independent work and whole class work.
- Opportunities to learn and develop new vocabulary and skills
- A range of skills should be used to explore how products and designs are improved
- Relevant vocabulary must be explicitly taught, evident in the classroom and used in discussion.
- During their time at SMAB, children develop and apply these to different projects that involve structures, electrical systems, textiles, mechanisms and food and nutrition so that they are gaining skills and knowledge in a variety of contexts.

Planning

- Planning is provided by Kapow with detailed expectations and stages within each unit
- The **long-term** plans for D&T are outlined in the school curriculum map which indicates the topics and objectives that are covered throughout the year.
- It is the responsibility of the class teacher/ year group teachers to undertake the planning for their class, or oversee it where a student may be taking the class.
- Lesson plans contain more detailed information about what will happen in the lesson.
- Plans are annotated and adapted to show how less able and those new to English will access the content.
- More able children are planned for so that they can deepen knowledge and skills.
- Lessons are planned to encourage children to research, design, make and evaluate their products.
- Skills will be explicitly taught and opportunities will be planned for children to apply them independently.

Feedback and assessment

- Peer and self-assessment
- Oral feedback
- AFL should be used within each lesson to establish if skills have been understood and applied.
- Evaluation of end product against the design brief.