

Design & Technology KS3 Intent

1. Engagement

- Provide students with the opportunity to be creativity and imaginative.
- Enable students to design and make products that solve real and relevant life problems
- Enable students learn vital transferable practical and theoretical skills
- Provide students with fundamental knowledge that will help them contribute confidently to a developing technological world.
- Provide students with opportunities to implement and draw upon knowledge from STEM subjects.

2. KS4

The Schemes of Work taught at KS3 are designed to compliment the skills that pupils will need to access the KS4 curriculum. Our KS3 schemes of work are designed to provide pupils with knowledge, understanding and skills required to undertake the iterative design process in KS4 of exploring, creating and evaluating. The majority of our KS3 schemes of work are delivered through the practical application of this knowledge and understanding.

Year 7

Question –How important are the 6 Rs to you?

Methodology:

- Pupils will learn about safe working practices in design and technology.
- Pupils will learn how to design and make functional products.
- Pupils will learn how to develop and test products through STEM .
- Pupils will learn the source ,origin and uses for common materials.
- Pupils will explore manufacturing techniques through arrange of design and make activities.
- Pupils will learn key design and technology terminology including those related to: designing, innovation and communication; materials and technologies; making, manufacture and production; critiquing, values and ethics.

KS4 Skills:

- Designing and making
- Analysing and testing

Content:

Designing and making - Wind powered sail, a catapult, a kinetic car, Mixed media key rack and mixed media keyrings

Workshop skills – pillar drill, hand tools, sewing machine and iron.

Year 8

Question – What does problem solving look like in Design and Technology?

Methodology:.

- Pupils will learn how to shape and form different materials using a wide range of workshop tools, machinery and equipment
- Pupils will explore methods for joining and finishing timbers, metals and paper/boards.
- Pupils will explore different design strategies through arrange of creative challenges. Focusing on innovation and problem solving.
- Pupils will explore the use of CAD and CAM in school and industry.
- Pupils will explore arrange of mechanical devices through theoretical and practical applications.
- Pupils will learn key design and technology terminology including those related to: designing, innovation and communication; materials and technologies; making, manufacture and production; critiquing, values and ethics.

KS4 Skills:

- Making and problem solving
- Prototyping and testing

Content:

Designing and making – creativity challenge prototyping and trinket box. Making and testing - Mechanical hand, wheelbarrow, CAM product

Workshop skills –hand tools, hegner saw, belt and disc sander, laser cutter and glue gun.

Year 9

Question –At what stage of the design process should a user or client be involved?

Methodology:

- Pupils will develop different methods for shaping and forming different materials using a wide range of workshop tools, machinery and equipment.
- Pupils will solve a real life problem using a local business and real life client .
- Pupils will develop drawing techniques and communication skills
- Pupils will develop decision making skills, including the planning and organisation of time and resources when managing their own project work
- Pupils will be encouraged to be ambitious and open to explore and take design risks in order to stretch the development of design proposals, avoiding clichéd or stereotypical responses

KS4 Skills:

- Contextual challenge – iterative design
- Prototyping and testing
- Technical drawing

Content:

Designing and making- a portable lamp and scaled models

Workshop skills –hand tools, hegner saw, belt and disc sander, laser cutter, line bender and glue gun.