

Resistant Materials Projects

Key Stage 3

Year 7 (6 week Rotation) Key Fob/Coat Hook Project:

Pupils will have an introduction into the workshop based around creating a Key fob and a coat hook. The focus over the rotation is the following areas:

- Health and safety
- The Design Process
- Basic Hand and Machine tool skills

Over the project there will be two formal assessment areas which will be the **Practical Outcome** and the **Evaluation**.

Year 8 (6 week rotation) Jewellery Project:

Pupils will have an opportunity to develop their practical skills from year 7 using a new variety of materials such as metal and plastic to create a Ring out of Nickel Silver and a decoration out of enamel or acrylic. Some pupils may also be able to create a matching Pendant using the enamelling process. The focus of the rotation is the following:

- Development of hand and machine tool skills from year 7
- Promotion of independent learning
- Working with metals and plastics
- An introduction to CAD/CAM

Over the project there will be two formal assessment areas which will be **Technical Understanding/Knowledge** and the **Practical Outcome**.

Year 9(6 week rotation) Plane Mobile Project:

Pupils will have the opportunity to combine their practical skills from previous projects to create a Motorised Wooden Bi-Plane Mobile. The project will cover:

- The history of flight
- The use of hand and machine tools
- Working with accuracy and focusing on quality
- Integrating electrical components
- Development of CAD/CAM skills

Over the project there will be two formal assessment areas which will be **Generating Ideas** and the **Practical Outcome**.

Key Stage 4

In Year 10, the focus is on developing the skills, knowledge and techniques acquired throughout Key Stage 3. This development will take the form of exciting mini projects, product analysis and focused practical tasks. By the end of their first year studying the course, pupils should have a suitable depth of knowledge to begin their GCSE coursework. In Year 11, each pupil will use their skills to produce a design folder and a quality practical outcome based on a theme set by the exam board. Through completing their coursework folder, they will revisit and develop knowledge of relevant theory which will hopefully lead them to a successful final exam