

Technology Year 7 Curriculum:

Department Intent: To provide pupils with a broad, balanced and engaging experience of all of the specialist areas that make up Design and Technology.

Assessment areas: There are 4 main areas of design and technology that will be covered and assessed in year 7: **Designing:** - Using research to identify user's needs. **Making:** - Using specialist equipment and a range of materials. **Evaluate:** - Test, evaluate and refine ideas taking into account the views of others. **Technical knowledge:** - Understand and use the properties of materials. Understand more advanced electrical and electronic systems. Understand mechanical systems. The year 7 curriculum will be delivered in a rotation, where all students will study the projects listed below at some point in the year.

Project 1 – Computer Science: Using Computers Safely, Effectively and Responsibly / Introduction to programming

- Organising work effectively within a file system.
- Staying safe online.
- Using email and search engines.
- Games design in scratch.
- Introduction to python.
- Computer Crime and security.

Key Objectives for Project 1 (Computer Science) – to be able to:

- Be able to organise work effectively using a computer.
- Understand and avoid the potential dangers online.
- Understand ones responsibility to others online.
- Design a simple game in Scratch.
- Complete basic drawings using Python in Turtle.
- Evaluate criminal activities and understand how to counter them.

Project 2 – Resistant Materials – Wooden Boat

- Use a range of tools and processes and machines safely.
- Explain the advantages and disadvantages of different materials.
- Use and apply a variety of different techniques to communicate ideas.
- Construct and explain a variety of different mechanisms.
- Produce a well presented and detailed design folder.

Key Objectives for Project 2 (Resistant Materials) – to be able to:

- Work safely with a range of hand tools.
- Use workshop machinery safely and independently.
- Describe forms of movement and construct simple mechanisms.
- Suggest suitable tools and equipment for specific tasks.
- Justify design features through detailed annotation.

Project 3 – Food and Nutrition

- Understand each of the following topics;
Food Safety, Cooking Methods, Special Diets and Food Provenance.
- Produce a range of dishes using different cooking methods.
- Demonstrate correct use of equipment in practical's.
- Understand and demonstrate sound hygiene and safety rules.
- Understand the principles of healthy eating using the eat well guide.
- Produce neatly presented work in book.

Key Objectives for Project 3 (Food and Nutrition) – to be able to:

- Plan a dish to be made in a 50 minute lesson.
- Demonstrate how to use the oven safely.
- Use a range of tools and equipment safely and without help.
- Evaluate the design and making of a food product.
- Suggest how a food product might be improved.

Project 4 – Product Design (Travel Game)

- Creative designing based on environmental issues.
- Use of CAD/CAM to manufacture components.
- Desk top publishing rule booklets.
- Writing manufacturing plans.
- Learning about time management.
- Evaluate and test products.

Key Objectives for Project4 (Product Design) – to be able to:

- Respond creatively to the design brief.
- Be able to desk top publish with flair.
- Use CAD/CAM confidently and appropriately.
- Be able to manufacture in line with a manufacturing plan.
- Understand the importance of time scales and deadlines.
- Be able to test and evaluate products.

Key Performance Standards

Knowledge

Computer Science:

- Understand a systems approach, using processes that respond to inputs and control outputs.
- Understand the basics of programming in Python.

Resistant materials:

- Understand and be able to apply knowledge of materials.
- Describe forms of movement and construct simple mechanisms.

Food:

- Understand basic principles of nutrition and health and apply knowledge of materials.
- Understand and be able to use hand equipment, hobs and ovens.

Product Design:

- Understand how to use a range of materials, apply them to my work and state their advantages and disadvantages.
- Understand how to use CAD/CAM in my project.

Skills

Design:

- Write a design brief commenting on the problem and explain how to solve it.
- Understand and be able to apply drawing and rendering techniques when designing.

Make:

- Use a range of tools and equipment safely and without help.
- Suggest suitable tools and equipment for specific tasks.

Evaluate:

- Evaluate using the specification and thoughts of others and suggest improvements to the design.
- Suggest how a food product might be improved.