

Technology Year 8 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 8: **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 8 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 (Extended Programming)

- Advancing Python.
- Database Development.
- HTML and website development.
- App Development.

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

- Understand and apply sequence, selection and iteration in python.
- Be able to design and implement a database in MS Access.
- To create a web page using HTML, CSS and JS.
- To build and test a simple web application.

Project 2 – Resistant Materials (Phone Holder)

- Analyse a design brief.
- Analyse existing products.
- Produce a range of creative ideas that are inspired by a design movement.
- Use a range of materials effectively.
- Use a range of tools and equipment safely.

Key Objectives for Project 2 (Phone Holder) – to be able to:

- Analyse a design brief and write a detailed specification for the phone holder.
- Create a range of unique ideas based on the existing product and design movement research.
- Identify a number of different materials and be able to work with them safely and correctly.
- Use a range of tools and processes efficiently and safely without help.
- Evaluate the finished product against the original specification.

Project 3 – Food

- Use equipment safely and hygienically.
- Understand why temperature is important for the safe storage and cooking of food.
- Understand why starch rich foods and vegetables are important in the diet.
- Understand cooking methods and how to cook in a healthy way.
- Understand Food Choice and different diets that effect a person's food choice.
- Be able to combine foods to show a good balance of nutrients, colour and texture.
- Produce a well presented and detailed book.
- Produce well planned and evaluated work.

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

- To investigate the different types of nutrient rich foods for use in practical dishes.
- To understand the structure and nutritional values of selected ingredients.
- Demonstrate a range of practical skills using a wide variety of culinary equipment safely.
- To be able to evaluate a range of practical dishes.

Project 4 – Product design (Wooden frame and print)

- Creative designing based on ideas inspired by a theme.
- Use of various wood working skills.
- Learn about the screen printing process.
- Learn about time management.
- Develop design communication skills through sketching and rendering.
- Have an awareness of different types of woods and their properties.

Key Objectives for Project 4 (Wooden frame and print) – to be able to:

- Respond creatively to the needs of the user and chosen theme
- Be able to identify materials properties and justify their selection
- Present design ideas through sketching and rendering techniques effectively to show the product's form.
- Be able manufacture/make a frame and print using appropriate techniques and tools.
- Understand the importance of time scales and deadlines.
- Be able to write a product specification and evaluate final outcome against this criteria

Key Performance Standards

Knowledge:

Computer Science:

- Understand how to programme to an advanced level in Python.
- Understand how successfully develop a database.

Resistant Materials:

- Understand a more complex range of manufacturing processes.
- Have an improved understanding of a range of woods, plastics and metals.

Food:

- Understand the importance of temperature when cooking and storing food.
- Understand what all the nutrients are needed for in the diet.

Product Design:

- Understand the importance of modelling a product.
- Understand how time management plays a vital role in making a product.

Skills:

Designing:

- Research and analyse similar commercial products with comments reflecting user's needs.
- Respond creatively to the design brief.

Making:

- Be able to manufacture using CAD/CAM and following a manufacturing plan.
- Be able to use a range of equipment safely whilst showing a range of practical skills to promote staple foods.

Evaluating:

- Evaluate products using the thoughts of others in order to improve a design.
- Be able to test and evaluate products, comment on current and future technologies and the ethics of products.