

St Benedict's Catholic High School: Design Technology & Engineering

Topic Area: **Resistant Materials**

Activity: **Storage Pot / Phone Holder**

Time Allocation: **13 hours (inc. hours for manufacture)**



The main aims of the unit

The main aim of this unit is for students to develop understanding of the design process with the main focus being on their ability to produce a high quality finished product. Students are also introduced the properties and characteristics of timbers and manmade boards.

In this unit, students tackle a making assignment on the theme of a storage pot and phone holder. They use at least two different types of material to produce their product (softwood, hardwood, man-made) and are introduced to how to shape and form wood correctly. The unit is very much a practical based unit developing a wide range of skills.

Values of the unit

Pupils gain the knowledge, skills and understanding they need to carry out the DMA successfully through focused practical tasks. They will:

- Learn how to identify various types of timber and manmade boards and understand their various properties.
- Learn how to use a design brief and specification when designing a new product.
- Recognise and identify a range of tools and demonstrate a safe application for each.
- Learn how to analyse existing products using ACCESSFM.
- Learn how to shape and form a range of timber.
- Learn how to evaluate work at all stages of a project to ensure a successful finished outcome.
- Develop practical skills including making, planning and using templates.
- Learn how to use a wide range of tools and equipment safely and successfully.

The nature of the project

All of the students will:

- Make the shape for the body of the storage pot / phone holder and well as additional details.
- Learn about suitable materials and manufacturing processes including laminating.
- Become familiar with a variety of production methods.
- Use a manufacturing specification effectively.

Cross-curricular links

- ICT – Internet research.
- Geography - Knowledge of trees and origins.

Activities	Outcomes
Set the pupils a making assignment in which they: Use a range of manufacturing techniques such as drilling, hand-tools to cut and sand paper / varnish to shape and form materials safely and effectively. Setting the scene – <i>Storage pot and phone holder</i> <i>Often around the home there are small items laying around that don't have a home or suitable place to be stored.</i>	Identify the particular requirements of the task and the design criteria to be met. Draw upon their understanding of familiar products. Evaluate their products and suggest design improvements. Test, modify and make adjustments in order to improve performance.

Health and Safety

Health and safety - during the making process, pupils should learn to recognise hazards, assess risks and take steps to control the risks to themselves and others. Pupils will also learn department rules for health and safety including wearing aprons for practical working and removing blazers and ties, wearing goggles when operating machinery etc.