St Benedict's Catholic School

The Catholic Secondary School for West Suffolk

Ora et Labora

Design and Technology Resistant Materials Curriculum Guide

Year 7

Design and Technology groups are rotated across two terms

Term 1	Term 2
In year 7 pupils undergo the development of subject specific knowledge, they learn how DT at KS3 is presented with a focus on individual exploration. This starts with Health & Safety in the workshop and an introduction to tools and equipment. These are essential elements, which enable pupils to work safely and with growing confidence. The first project is to design and make a keyring using CAD/CAM. This will include developing knowledge of CAD Software and using the Laser Cutter (CAM) to make their final idea. They will use either acrylic or wood for this project. *(this is primarily a DESIGN project)* Alongside this they will explore the Design Process (including writing their own Design Brief & Specifications), develop subject specific vocabulary, and create their own questionnaire to help them analyse and evaluate their product. A key topic is awareness of Sustainability in Design and Environmental Issues which designers and makers need to apply to their work.	Pupils are presented with the challenge of designing and making a fully working mechanical clock. The project begins with research into a range of iconic design movements and explore the different characteristics of at least 3 of the given choices. They will learn how to make different wood joints and work using hand tools and develop basic workshop skills; using the pillar drill, disc sander, saws and hand files, to name a few. This will allow them to acquire practical skills, such as construction and shaping with wood. CAD/CAM equipment can also be employed to help them make smaller decorative parts. *(this is primarily a MAKE project)* There is a strong emphasis placed on safe and appropriate working practices in the workshop, with the expectation that safe rules are always adhered to. They will develop an understanding of key design issues such as meeting the needs of potential users and renewable materials in design work.

Assessment and Homework

Pupils are assessed with a focus on 'Ideas & Development' as well as 'Making skills', this will cover their ability to work with increasing precision and confidence in the use of materials, hand tools, workshop machinery and CAD/CAM equipment. They will also receive regular (twice per term) formative feedback, in-depth assessment, and an end of year full subject exam style appraisal.

Homework is set every two weeks (approximately 3 times per half term) The tasks set will vary depending on the stage of each project, but will include personal visual research, investigation or written responses about a given theme, workshop technique or material. In most cases this will involve pupils printing outcomes and bringing these to their next lesson, rather than submitting via Arbor.

Resources

Pupils are provided with a log in for ***FocusELearning*** which provides a wide range of DT specific learning resources, animations, diagrams, videos, and important designers. There are also sections on Maths and Physics (both of which feature in the Resistant Materials Curriculum). This can be used for homework and developmental work.

Extra and Super Curricular Opportunities

Competitions run in the school for students to engage with each year including production of props for the school production and creating trophies and products as part of St Benedict's Day.