St Benedict's Catholic School
The Catholic Secondary School for West Suffolk

Design and Technology Resistant Materials Curriculum Guide

Year 9

At KS3 Design and Technology groups are rotated Termly to allow all pupils to experience the 3 key areas of the subject, namely Graphic Products, Resistant Materials, Food and Nutrition. Therefore, each group will move to a different specialism at the end of each term.

Course Taught Content

Shampoo bottle
Pupils have to design and make a full scale model of a bottle for a new hair shampoo. The project begins with a detailed look at existing products and pupils use their evaluation skills to establish what makes one product more desirable than another. As part of the product development the pupil will generate ideas for the bottle shape, bottle lid and a suitable eye-catching brand identity. The main materials used to make the model are; Styrofoam a polystyrene based material which can easily be cut to shape, acrylic sheets and rods which can be shaped using the laser cutter. There is also the opportunity to use various workshop machinery including the milling machine, CAD/CAM vinyl cutter and a hot wire cutter.

As part of the design process pupils are introduced to the concept of iterative designing whereby their product idea is developed bit-by-bit and is subject to different influences. Pupils will also be introduced to the idea of the Product Life Cycle (PLC) which considers products 'from the cradle to the grave', in other words from extraction to disposal.

Assessment

Pupils are assessed with a focus on 'Evaluation', this will cover their ability to evaluate existing products and ideas, evaluate their own ideas as they progress and to evaluate final made models and offer suggestions for further modifications. They will also receive regular (twice per term) formative feedback, in-depth assessment and an end of year full subject exam style appraisal. Due to the termly rotation between subjects the final assessment will incorporate all three specialisms. (Graphic Products, Resistant Materials, Food and Nutrition).

Homework Expectations

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 research, investigation or personal visual responses about the given theme. In most cases this will involve pupils printing outcomes and bringing these to their next lesson, rather than submitting via Edulink. The homework will predominately help pupils to enhance and inform their classroom work and is vital due to limitations with computer access.

Reading List

Pupils are provided with a copy of p84-85 'Choosing materials' from the Foundation text book (Collins)