YEAR 7 10 Week Module DT - RESISTANT MATERIALS LEARNING PROGRAMME

Love God
Serve others
Work hard
Value all

Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Health and safety	To be able to identify and prevent hazards in the workshop. To understand how to work safely with equipment and machinery.	Hazard	Identify hazards from a 'crime scene' set up.		
Baseline assessment	To demonstrate accuracy and skill using key pieces of equipment.	Template Accuracy Precision MDF Acrylic	Written baseline assessment testing accuracy of measuring, converting measurements, 2D and 3D shapes, designing and creativity. Practical baseline assessment testing accuracy of basic practical skills	Maths - precise measurements, area Science - material properties Art - creativity	Extended home learning project that lasts the full 10 week rotation. **Design a product to help students learn at secondary school.** Students will research, design and make samples of their ideas at home over the course of the rotation. This will be presented to their peers.
Designing and creativity	To conduct detailed research on a given design brief. To produce suitable and creative designs with annotation. To consider a target user's wants and needs.	Annotation Design Target user Research Components The 6Rs	Students will conduct research surrounding their given brief. Initial design sketches based on research with detailed annotation. Develop designs based on target user feedback. Evaluate success of own and others ideas.	Art - creativity Graphics - technical drawing Maths - measurements and drawing to scale Geography - Environmental impact Business studies - producing and marketing a successful product.	Extended home learning project that lasts the full 10 week rotation.

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Key practical skills and equipment / machinery **Laser cutter** **3D printer**	To be able to use various pieces of equipment safely, with a degree of accuracy. To produce a well-finished and functional product.	Fretsaw Laser cutter 3D printer Drill press Belt sander Vice CAM Tolerance	Introduction to larger workshop machinery and computer aided manufacturing processes, including use of the department's 3D printers and laser cutters. Practical design and make task using health and safety and quality control checks. Evaluation of own skills and final product. Justify need for any changes.	Maths - precise measurements, area English - Evaluative skills, written and verbal evaluations	Extended home learning project that lasts the full 10 week rotation. **Design a product to help students learn at secondary school.** Students will research, design and make samples of their ideas at home over the course of the rotation. This will be presented to their peers.