YEAR 8 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
Cams and followers	To understand different types of movement produced by cams and followers and how they can be used in products. To apply knowledge of cams and movement to product designs.	Cam Follower Linear motion Rotary motion Reciprocating motion Oscillating motion Mechanism	Students will experiment with different types of cams, testing for themselves the motion and direction of travel that can be produced. Students produce a range of initial designs based on their investigations in to cams and mechanisms. Students will model their designs, test and ask for target user feedback to inform their developments.	Engineering - mechanisms Science - physics	Extended home learning project that lasts the full 10 week rotation. **Interactive display**: students will design and plan an interactive display encouraging others to recycle. This will be presented to their peers at the end of the rotation.
Technical measuring equipment Modelling and testing in use	To be able to use key technical equipment correctly and with precision. To produce an accurate model for the final product. To conduct target user feedback.	Try-square Calliper Metal rule Prototype	Students will model their designs using modelling materials, such as card and Styrofoam. Students will test their idea in use. Students will ask for target user feedback to inform their developments.	English - Questionnaires, interviewing target user, using a professional tone. Maths - measurements, calculating area and wastage.	See above.
Developing ideas Joining materials	To utilise target user feedback to develop design ideas. To demonstrate accurate practical skills by building a sturdy frame for cams and followers. To demonstrate computer aided design (CAD) skills. To evaluate the successfulness of the finished product.	Quantitative data Qualitative data CAD Laser cutter Lap joint 3D printing	Students will analyse their feedback and us this to develop their ideas. Students will mark out, measure and cut an accurate lap joint frame for their cams and followers. Students will use CAD to plot features for their product. Extension: Students exceeding in CAD tasks will begin to look at 3D printing elements.	Maths - Analysing quantitative and qualitative data English - written evaluations	See above.