KS4 CURRICULUM: RESISTANT MATERIALS (YEAR 10)

Overview
In Resistant Materials you will learn about:
- Core design and technology principles with some emphasis on maths and science skills
- In-depth knowledge of how different materials and manufacturing processes are used to design and make products.

	Focus / Topic	Knowledge & Skills	Assessment
Autumn 1	Core Design and Technology Content ● Mini contextual challenge (Acoustic Phone Stand)	● Impact of new and emerging technologies ● Informing design developments ● Technical Drawing (Isometric, One point and third angle orthographic) ● CAD/CAM programmes (sketch up and Techsoft 2D)	● Half termly mock-exam ● Maths in Technology Quiz on Google Classroom
Autumn 2	Core Design and Technology Content ● Mini contextual challenge (Acoustic Phone Stand)	● Electronic systems ● The use of programmable components ● The categorisation of the types, properties and structure of polymers ● The categorisation of the types, properties and structure of metals and timbers	● Assessment week (w/b 9th Nov 2020)
Spring 1	Specialist Material Categories (RM) ● Mini Contextual challenge – Manufacture (CAD/CAM Furniture/Building Design)	● How energy is generated and stored ● Modern and smart materials ● The functions of mechanical devices ● Developments in modern and smart materials, composite materials and technical materials	● Half termly mock-exam ● Maths in Technology Quiz on Google Classroom
Spring 2	Specialist Material Categories (RM) ● Mini Contextual challenge – Manufacture (CAD/CAM Furniture/Building Design)	● Forces and mechanisms ● CAD/CAM Programmes (Sketch Up and Techsoft 2D) ● Processes used to manufacture products to different scales of production. ● Specialist techniques used for high quality prototypes. ● Surface treatments and finishes.	● Half termly mock-exam ● Maths in Technology Quiz on Google Classroom
Summer 1	Specialist Material Categories (RM) ● Mini Contextual challenge – Manufacture (CAD/CAM Furniture/Building Design)	● Investigate social and economic challenges ● Investigate the work of others ● Avoiding design fixation ● Developing design ideas	● Half termly mock-exam ● Maths in Technology Quiz on Google Classroom
Summer 2	Non-exam assessment ● (Briefs released by the exam board in June)	● Contextual challenge – Investigate ● Contextual challenge – Specification	● End of Year exams (w/b 21st Jun 2021 for 2 weeks)

Further Information
- Design and Technology – Component 1: Written paper (100 Marks – 2 Hours) (50% of GCSE 9-1)
- Iterative Design Challenge – Component 2: Non-exam Assessment (100 Marks - Approx. 40 hours) (50% of GCSE