

## Year 9 TECHNOLOGY

### Overall Intent:

In Year 9, students participate in a variety of projects. In doing so, they build their understanding of CAD (Computer Aided Design), learn what it means to work to a client brief, problem solve through modelling, develop engineered drawings and work with traditional manufacturing methods. Students work with different materials and develop skills in preparing, cutting and shaping as well as discovering more about their working properties. Students also work with the laser cutter and use CAD software such as Fusion 360 which is used in industry. By looking at a range of designing and manufacturing techniques and developing their innovation, students establish their ability to be able to articulate their creative ideas confidently. Please note that students rotate through the projects and different groups complete the different projects at different times of the year.

|  | Autumn 1   | Autumn 2 | Spring 1   | Spring 2 | Summer 1  | Summer 2 |
|--|--|----------|--|----------|---|----------|
| Topic/Area of study                      | FUSION 360 PROJECT   |          | ARCHITECTURE PROJECT   |          | KEY SKILLS PROJECT  |          |
| Key learning aims – knowledge and skills | Use of CAD in Industry: theory and history behind use of CAD in industry.<br>Creating simple shapes in CAD: use of Fusion360.<br>Rendering: creating images to show clients.<br>Engineering Drawings: creating drawings.<br>Phone Amplifier: following instructions to create example product. |          | Working to a brief: consider needs and wants of client, shipping container constraints.<br>Researching: using research of existing shipping container projects to inform design, understanding basic awareness of space/size in relation to furniture design.<br>Researching space saving/foldaway furniture.<br>Designing: plan and 3D drawing skills, perspective drawing.<br>Practical: to draw out, cut and build using card.<br>Evaluation: peer and self-reviewing finished product. |          | Practical skills: line bending, vac forming, sketch up, measure mark cutting, draw filing cross filling, wasting and preparing, centre punch, drilling metal, finishes, quality control, CAD/CAM, scales of production, wood bending, laminating, veneer steam bending, pop rivets. |          |

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| <b>Assessment</b> | Focus on CAD designing | Focus on research and designing | Focus on researching |
|-------------------|------------------------|---------------------------------|----------------------|