



## PLUME ACADEMY - LEARNING OVERVIEW

Year	9
Subject	Resistant Materials

### Prior Learning

The Year 9 RM curriculum builds on prior learning by continuing to offer students the opportunity to build on their design and make skills learnt in year seven and eight. During these two years the students carry out three project each year, one per term. They Research, Design and Plan manufacture in the first half then Make and Evaluate in the second half.

### Curriculum Intent – What are the curriculum aims?

The Year 9 Resistant Materials curriculum aims to equip students with the necessary skills to be able to understand a need for a design, write up a brief and specification to answer that need, explore a design idea to answer that brief then communicate this design using taught drawing skills. Once they have completed these stages, they plan the manufacture and then practically make their final product following their designs with the introduction of making skills. When completed, they evaluate their final product against their original brief and specification to consider an iterative design approach to their project. During each stage the research, design and make skills are increased in complexity to enhance and build on skills learnt in years 7&8. This is important to allow individual learning styles and to equip them with skills that build on top of each other, for example, making a simple glued wooden joint in year 7 to a more complex and difficult mechanical fixing in year 9. Each project build on these skill over time and outcomes can be tailored for differing abilities.

### Curriculum Implementation – What my child will be learning?

Term 1	Half Term 1	<i>Maze Game: Computer Aided Design, experience practical understanding, skills and knowledge.</i>
	Half Term 2	<i>Maze Game: Computer Aided Design, manufacturing experience, understanding and knowledge.</i>
Term 2	Half Term 3	<i>Personal Storage: Compliant Materials, properties, use and understanding of how manipulate these.</i>
	Half Term 4	<i>Personal Storage: Compliant Materials, practical use of taught and previous learnt skills to manipulate materials.</i>
Term 3	Half Term 5	<i>Electronics: Electronic theory and implementation, (input – process – output) circuit design.</i>
	Half Term 6	<i>Electronics: Practical implementation of theory and circuit construction skills and testing.</i>

### Curriculum Impact – How will progress be assessed?

*Progress is made through practical application of theory and manufacturing skills taught, with the theory learning and tangible outcomes assessed in line with the departments and school assessment policy.*



### Super-Curricular Opportunities – Extending Learning

Useful study resources:	If a student is really passionate about this subject, they could:	As a parent/carer, I can assist my child in this subject by:
Technology Student - <a href="http://www.technologystudent.com/">http://www.technologystudent.com/</a>  BBC Bitesize - <a href="https://www.bbc.co.uk/bitesize">https://www.bbc.co.uk/bitesize</a>  Seneca - <a href="https://www.senecalearning.com/">https://www.senecalearning.com/</a>	Enter the Design Ventura Competition <a href="https://ventura.designmuseum.org/">https://ventura.designmuseum.org/</a>  Design a display for a notable product or designer of interest.	Visit the Olympic Stadium in Stratford and find out about its construction.  Listen to the femmes of STEM podcast.  Enter the Lego rebrick competition

#### Key Links:

Technology Student - <http://www.technologystudent.com/>

BBC Bitesize - <https://www.bbc.co.uk/bitesize/subjects/zvg4d2p>

Seneca - <https://www.senecalearning.com/>

Number Phile - <https://www.numberphile.com/>

Engineer Guy - <https://www.youtube.com/user/engineerguyvideo>

Fusion 360 - <https://www.youtube.com/user/AutodeskFusion360>