



PLUME ACADEMY - LEARNING OVERVIEW

Year	Nine
Subject	Engineering

Prior Learning

The Year Nine curriculum builds on prior learning in by developing the skills and knowledge students have learnt in Resistant Materials during Years 7 and 8. Students will have completed 6 termly projects during this time, including the Balancing Toy Project where they are first introduced to the Centre Lathe and the Brazing Hearth. Students complete their mini options in year 8 where many opt to study Engineering for one hour per week throughout Year Nine.

Curriculum Intent – What are the curriculum aims?

The aims of the Engineering curriculum in Year 9 is to enthuse the students with a passion for designing and making. Students are taught a wide range of skills and knowledge over the termly projects, from traditional techniques to the latest CAD/CAM methods of production. The projects are sequenced in a way to develop the students' enthusiasm and abilities with the hope that many of them will opt to study the Cambridge National in Engineering Manufacture during Years 10 and 11. We have an extremely well-resourced department that enables students to have a hands on experience of real engineering.

Curriculum Implementation – What my child will be learning?

Term 1	The Screwdriver project Lathe and Milling Machine skills, Forging and Heat Treatment
Term 2	The Gravity Racer Project CAD/CAM – 3D designing, STL files, CAM Router and Laser Cutter
Term 3	The Desk Lamp Project Electronics, working with resistant materials

Curriculum Impact – How will progress be assessed?

Students will be given a grade (1 to 9) on their skills and knowledge in each of the following strands:

Researching
Designing
Planning
Making
Evaluating



Super-Curricular Opportunities – Extending Learning

Watch Engineering related TED talks

Subscribe to YouTube channels that promote engineering; e.g. Colin Furze, Guy Martin, Lyle Peterson (mrpete222)

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:
Download and install a copy of Autodesk Fusion 360 at home. Make sure it is the free educational version! BBC Bitesize www.technologystudent.com	Develop their engineering skills at home; being creative and designing and making anything, possibly with older siblings or relatives.	Encouraging students to watch engineering related, or visit places of interest with an Engineering connection, e.g. The Science Museum, The Museum of Power, IWM Duxford.