Key Stage 4 Options

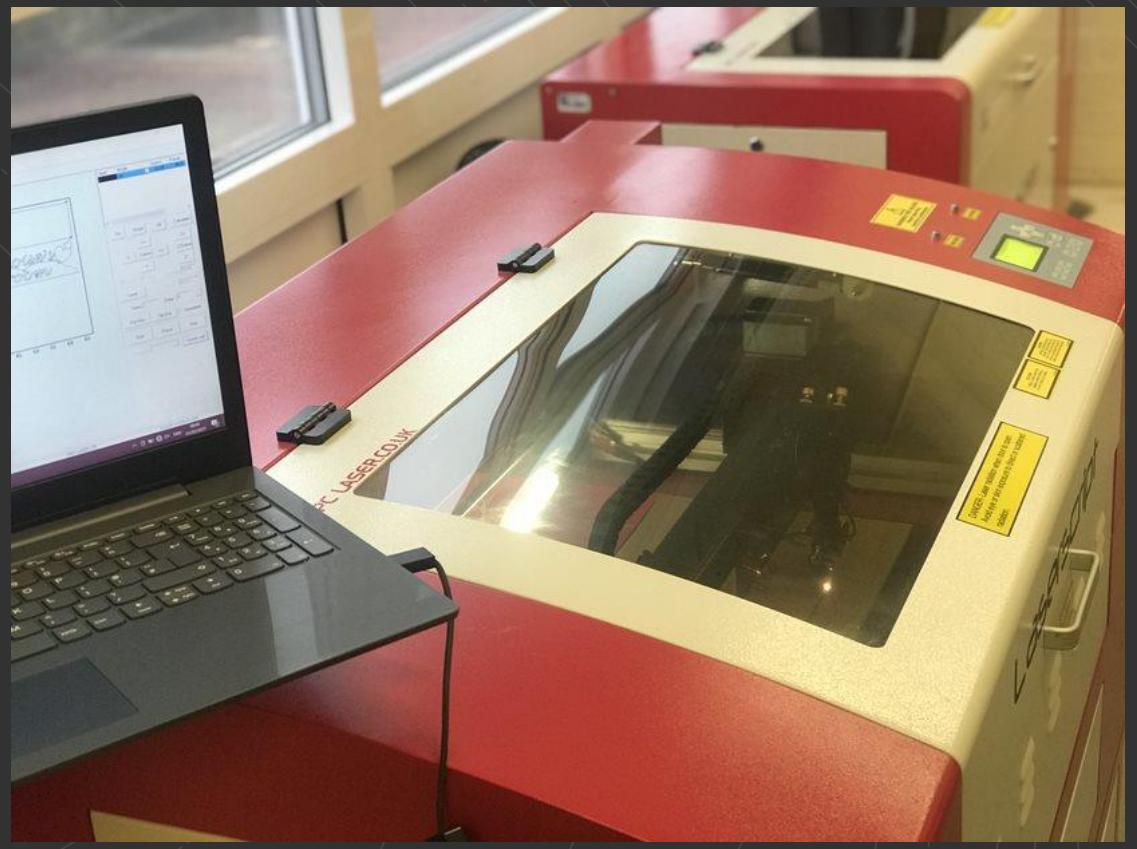
OCR
GCSE (9-1)
Design & Technology

What is design and technology?

We are a subject that looks at different ways to improve everyday living through product design

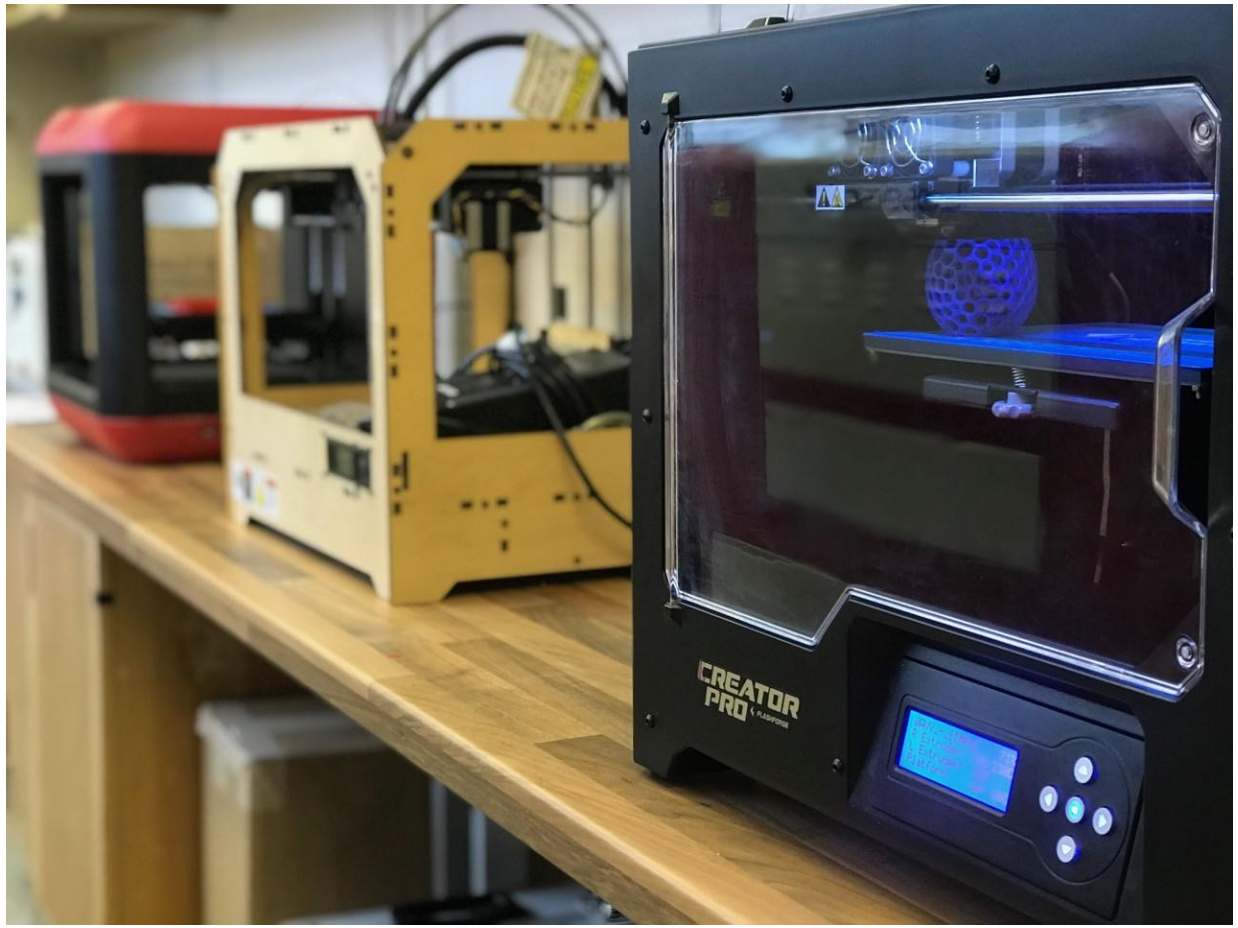
Why choose Design and Technology?

- The subject encourages you to develop design and thinking skills that will give you the tools to create the future.
- Engage learners with contemporary topics covering the breadth of this dynamic and evolving subjects.
- Generate empathetic learners who have the ability to confidently critique products, or situations and society in every walk of their lives and in the future.



What will I learn about?

- An understanding of real-life experiences in designing and in the development
- Manufacturing and engineering
- Iterative design process and the relevance of these to industry practice
- Develop realistic design proposals
- Use your imagination, experimentation and combine design solutions



- How to refine your ideas whilst designing and modelling ideas
- Learn how to communicate ideas and decisions made to an audience
- Learn how to develop decision making skills, including careful planning, managing time and above all meeting deadlines
- Be ambitious and open and be prepared to take risks in order to stretch design proposals
- Address costing, commercial viability and marketing of products
- Demonstrate safe working practices in design and technology

Learn how to use key design and technology terminology including those related to:

- Designing
- Innovation and communication
- Materials and technologies
- Making
- Manufacturing and production
- Critiquing
- Values and ethics

Further study

i.e. A levels, BTEC diplomas, Higher National Diplomas, apprenticeships and future careers within the field of design.

50% Iterative design challenge coursework

50% Principles of design & technology written exam

How is the course assessed?

Iterative design challenge project

50% of total GCSE (9-1)

- 100 marks
- Approximately 40 hours non-exam assessment
- As an outcome of their challenge, learners will be expected to produce a chronological portfolio and one final prototype(s)

Identify needs and requirements (Explore)

Create solutions that meet those needs (Create)

Evaluating whether those needs have been met (Evaluate)

50% of total GCSE (9-1)

2 hour written paper and is split into two sections

Core knowledge

Demonstrates learners broad understanding of principles that all learners should have across the subject

In-depth knowledge

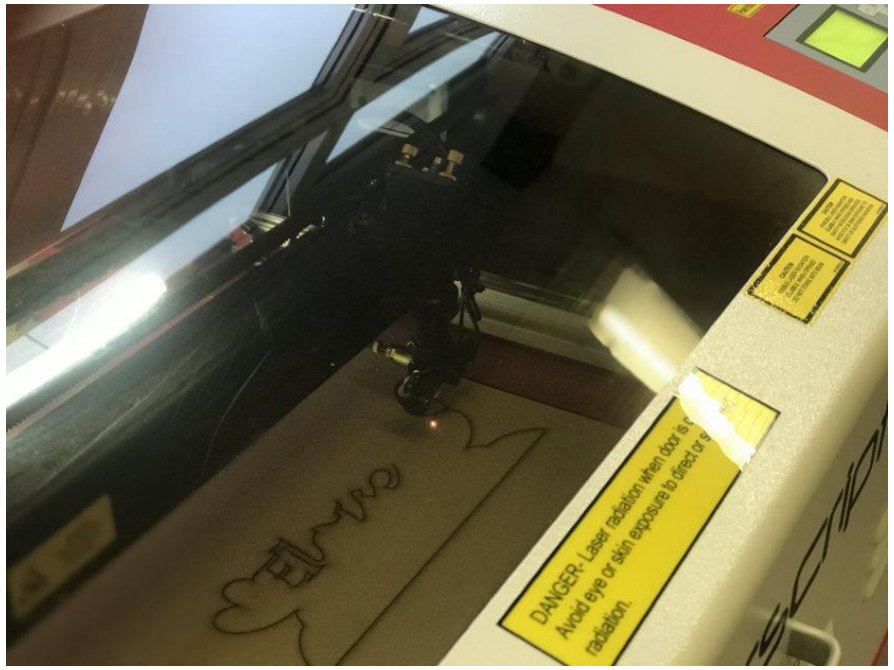
Allows learners to focus more directly on at least one main material category, or design engineering.

* A minimum of 15% of the paper will assess learners' mathematical skills as applied within a design and technology context

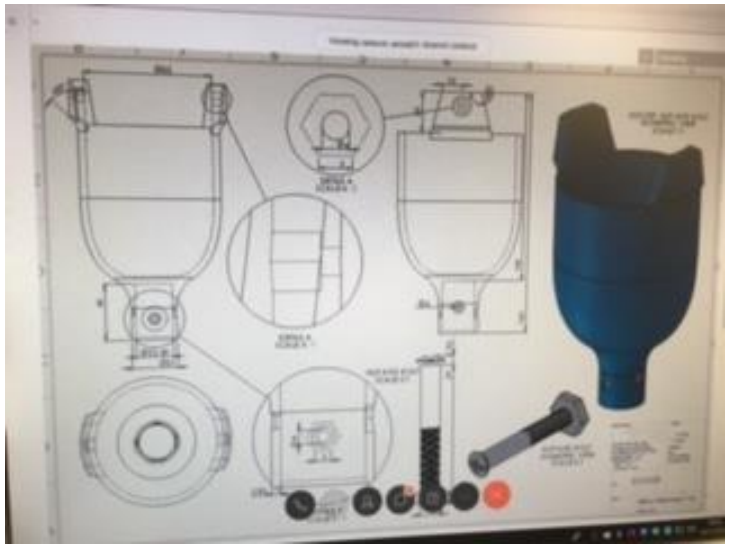
Principles of design & technology

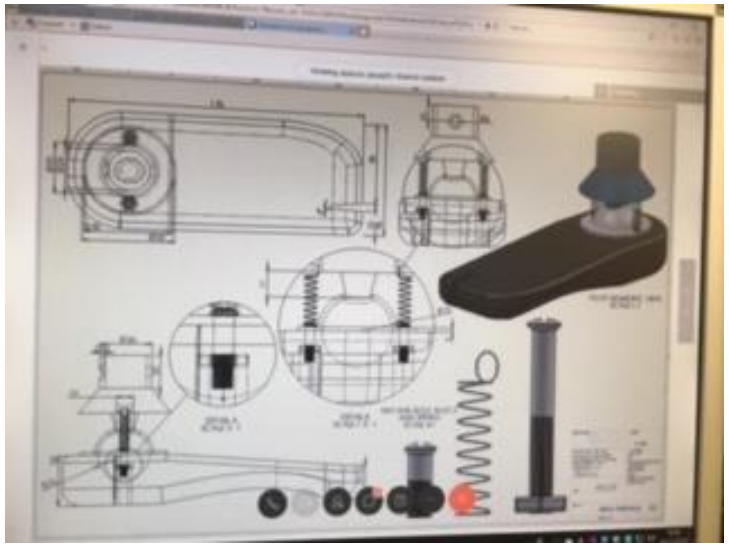
How is the course structured in year 10?

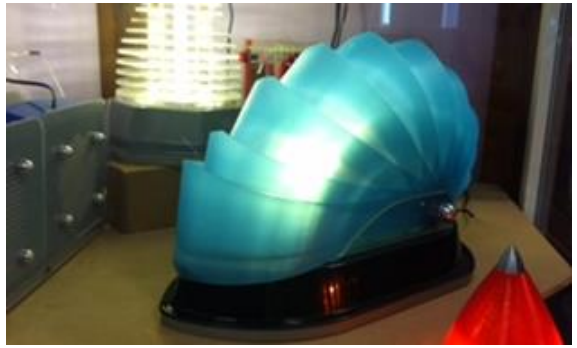
- Exam content
- Technical drawing, CAD (rapid prototyping) and CAM (CNC laser cutting, vinyl cutting, 3D printing and milling machines)
- Use workshop tools/ equipment and processes, and machinery
- Begin iterative design challenge project in the last half term

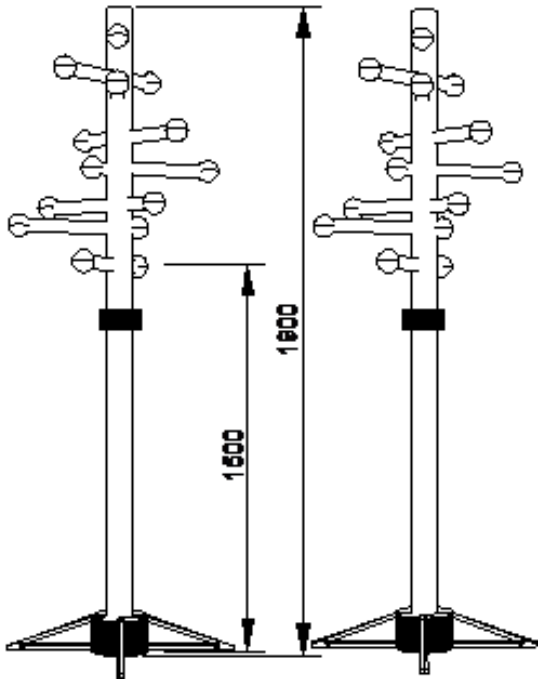


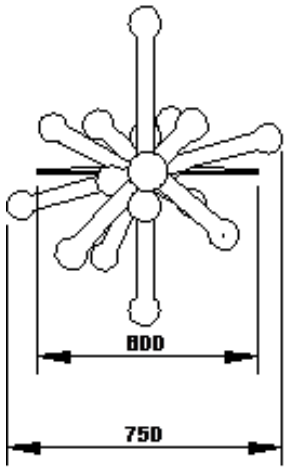
Past students' CAD work

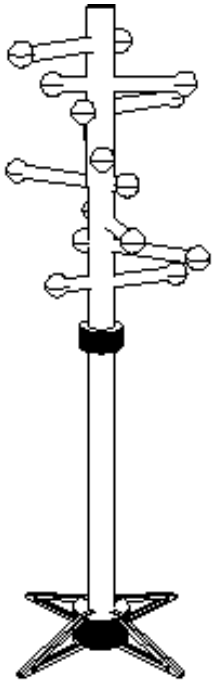


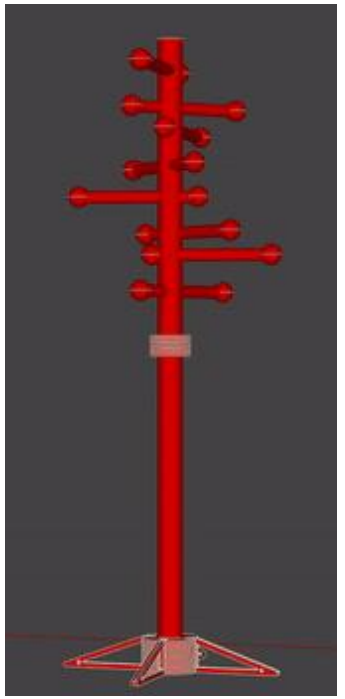










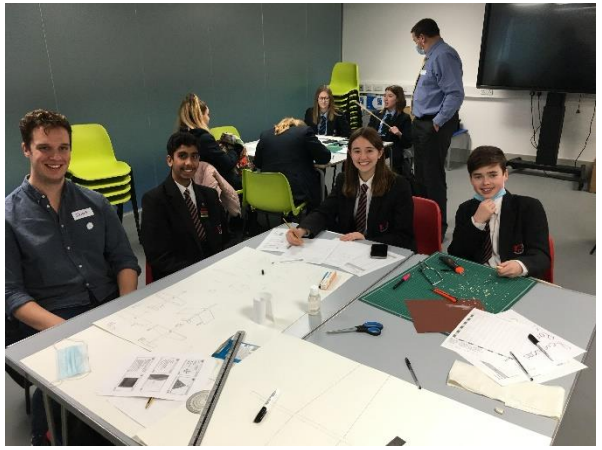


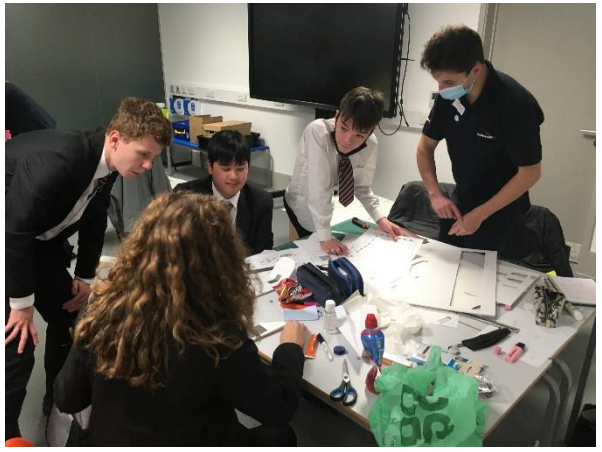
Competitions in year 10

- MBDA National Design competition at Hendon RAF Museum.
- Regional Rotary engineering tournament at The Marlborough Science Academy.

MBDA Stevenage - A world leader in missile systems

MBDA Hendon Aeronautical Design Challenge





MBDA Competition – RAF Museum

Regional Rotary Engineering Tournament – Marlborough (Junior Team)

- Complete the final major project
- Continue preparing for the written paper

How is the course structured in year 11?

Why choose design and technology as an option?

Brings learning to life

Requires learners to apply their learning to real life situations

Lessons created to enthuse and inspire

Design and build prototype models that real and relevant problems

Learning of many valuable life skills and techniques

Student notes and guides issues

High grades accessible if the student is organised and motivated

Wide variety of activities with as much practical as possible

Ability for student to create their own designs

Very little hand writing - use of ICT

Adds variety to the GCSE timetable

And…

Finally, exciting news on the horizon – you'll now be able to experience our brand new STEM suite!

Kitted out with:

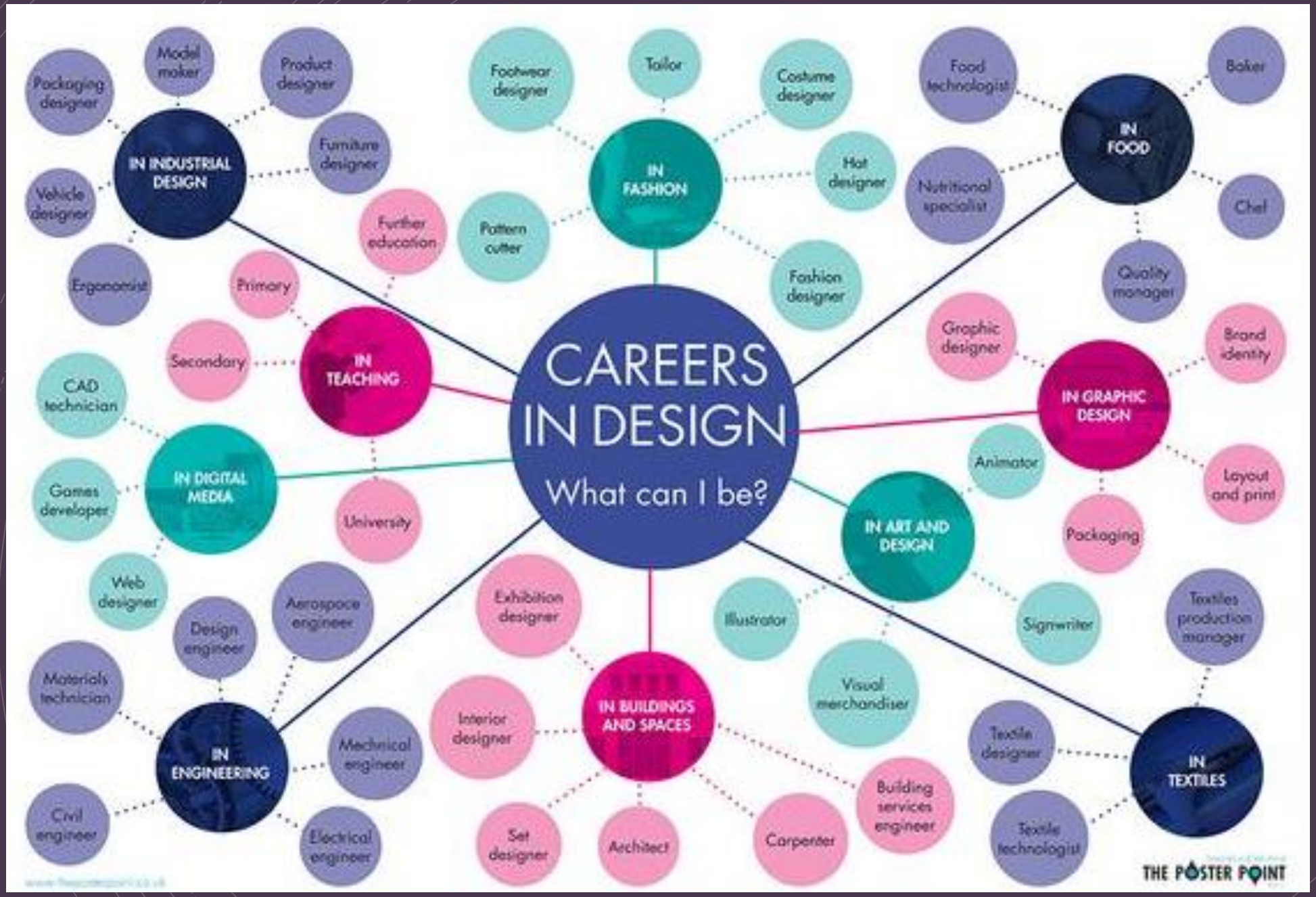
Newly installed 3D printers

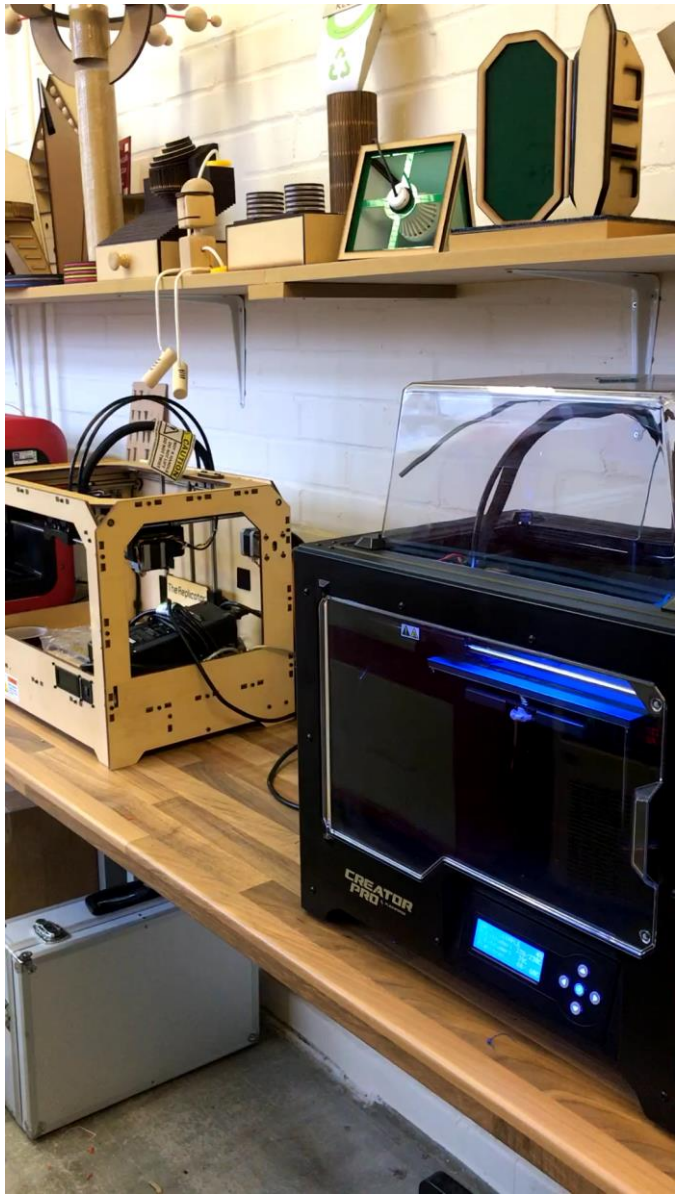
New advanced Dell laptops to operate them

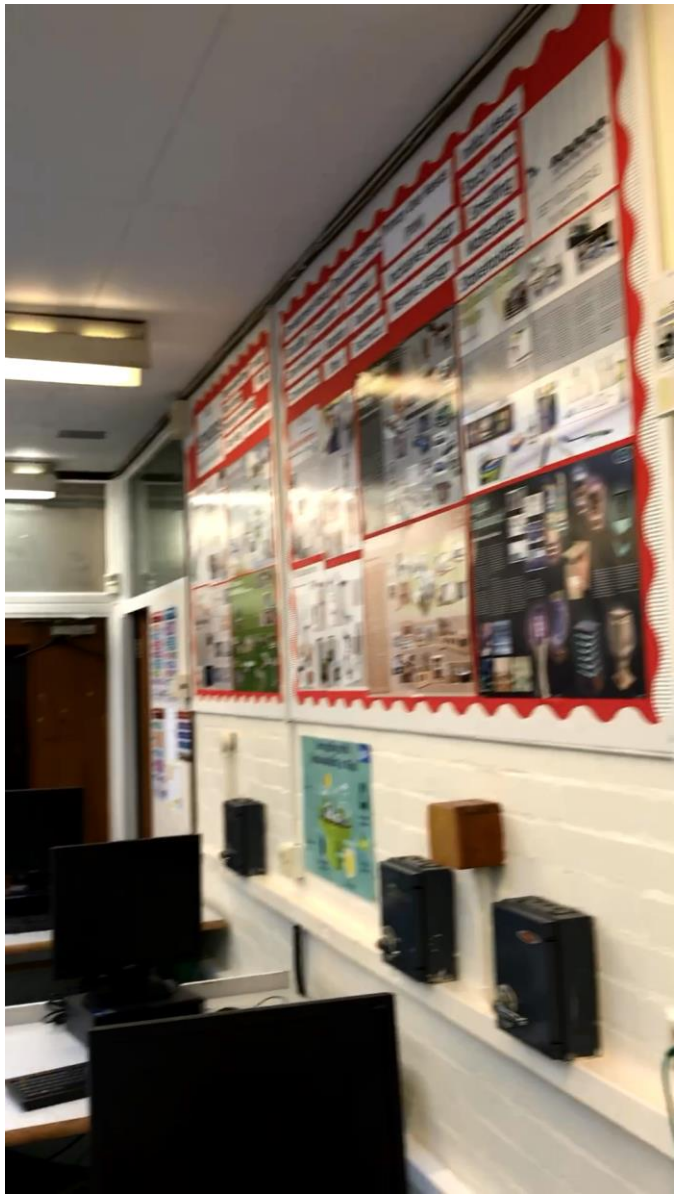
We are also in the process of applying for funding to run a green power IET Formulae 24+ Go-kart kit that we can build and compete against other schools involved in the initiative.

Plus run a weekly radio control car club where you'll be able to build RCs from kit.

There is also the opportunity to apply for a prestigious Arkwright Scholarship in year 11 with £600 of supporting funds to use towards your studies in the sixth form.


CAREERS IN DESIGN
What can I be?
IN INDUSTRIAL DESIGN
Model maker
Product designer
Packaging designer
Furniture designer
Vehicle designer
Ergonomist
IN FASHION
Footwear designer
Tailor
Costume designer
Hat designer
Pattern cutter
Fashion designer
IN FOOD
Food technologist
Baker
Nutritional specialist
Chef
Quality manager
IN TEACHING
Primary
Secondary
Further education
University
IN GRAPHIC DESIGN
Graphic designer
Brand identity
Animator
Layout and print
Packaging
IN DIGITAL MEDIA
CAD technician
Games developer
Web designer
IN ART AND DESIGN
Illustrator
Signwriter
IN ENGINEERING
Design engineer
Aerospace engineer
Materials technician
Mechnical engineer
Civil engineer
Electrical engineer
IN BUILDINGS AND SPACES
Exhibition designer
Interior designer
Set designer
Architect
Carpenter
Building services engineer
IN TEXTILES
Textiles production manager
Visual merchandiser
Textile designer
Textile technologist
THE POSTER POINT





Thank you for listening

DESIGN & TECHNOLOGY

For more information please speak to your Year 9 design and technology teacher or contact myself Mr Libberton (Deputy head of Design and Technology)