What is Design and Technology

...and why choose to study it?

"Design and Technology is a **phenomenally important subject**. Logical, creative and practical, it's the only opportunity students have to apply what they learn in Maths and Science."

Sir James Dyson Founder and Chairman of Dyson and Patron to the D&T Association

D&T the design and technology association

What will you be doing?

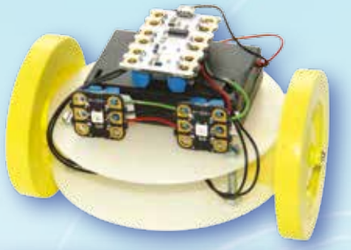
Design and Technology is purposeful, as well as being fun and exciting! Studying GCSE Design and Technology will build on what you learnt about designing and making in Key Stage 3. You will use your knowledge and skills to design and make new and better solutions to real problems - on your own and with others - working with materials you choose.

Understanding users

- Who your product is for and their needs
- How the product will be used

Learning about materials

- Including traditional, smart and modern materials
- Selecting the best materials for making your designs



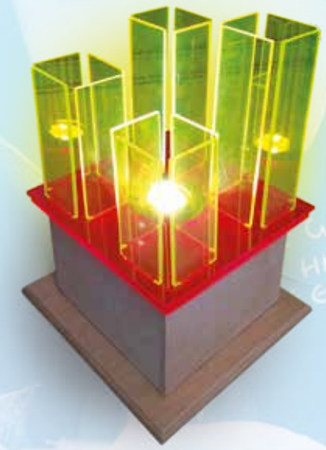
Learning how things work

- Using mechanisms, electronics and computers to control things; including robots
- Designing and making products that don't fail in use

Designing:

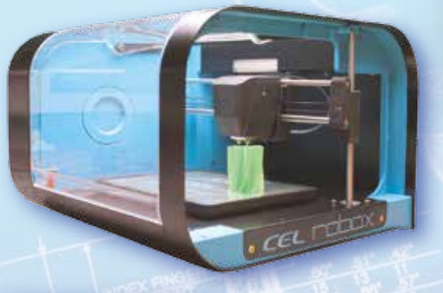
including Computer Aided Design (CAD)

- Taking risks to create more imaginative ideas
- Clearly communicating your design ideas to others



Analysing products

- Understanding how everyday products have been designed and made
- Learning about the work of past and present designers, makers and engineers



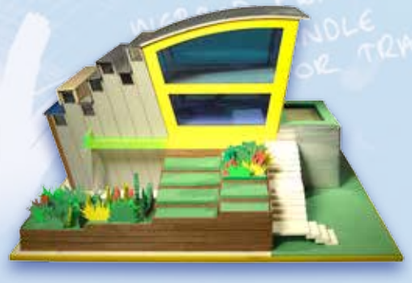
Evaluating your own and others' work

- Expressing your opinions about products and services, to inform…
- …the development of better solutions to real-life problems

Making:

including Computer Aided Manufacture (CAM)

- Working safely with tools and equipment – including 3D printers
- Making high quality working prototypes



Where could D&T take you?

the design and technology association

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For everyone

GCSE D&T opens the door to a wide range of careers in the creative, engineering and manufacturing industries. It is also excellent preparation for careers in many other fields e.g. medicine, law and computer science. Whatever career you choose, the knowledge and skills you learn, particularly those concerned with rapidly developing technologies, will be extremely valuable. You will also develop skills, such as teamwork and time management which are highly prized by employers.

Dualit.

Alex uses his D&T skills every day!

"I couldn't see how I could get here now, which is designing products that are sold internationally, without that first step of Design and Technology."

Alex Gort-Barten
Designer for Dualit

GCSE Design and Technology

You will apply your D&T skills and knowledge (and what you learn in maths, science, art and design and other subjects) to solve real-life problems through hands-on project work.

A Level Design and Technology

Project work in areas such as:

- Engineering
- Fashion and Textiles
- Product Design

Technical and applied (vocational) qualifications

Vocational qualifications in areas such as:

- Building
- Computing/IT
- Construction
- Design
- Engineering
- Fashion
- Manufacturing
- Textiles

Apprenticeships

Earn as you learn without student loans in areas such as:

- Building
- Computer Aided Design (CAD)
- Construction
- Engineering
- Fashion and Textiles
- Graphic Design
- Information Communication Technology
- Manufacturing
- Planning

BA, BEng and BSc Degree courses

Degree courses in areas such as:

- Architecture or Building Studies
- Design (including Digital and Interactive, Fashion and Textiles, Product etc.)
- Engineering (including Aerospace, Civil, Electrical, Mechanical etc.)

Careers

Many exciting careers in Design, Manufacturing or Engineering require the practical and problem-solving skills that D&T provides and the demand for people in these areas of work is growing fast.

Image © James Mooney

Paul says D&T is important!

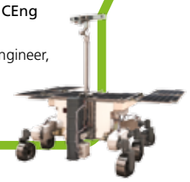
"In a world which is so over-supplied, one way to succeed and stand out is to have a creative and lateral way of thinking about things. Creativity makes businesses, careers and futures for people and this is why subjects like Design and Technology are so important."

Sir Paul Smith Fashion Designer

Abbie designs spacecraft!

"D&T was my favourite subject at school – the one time that I got to apply my creativity and problem solving skills to the creation of new products, and see my ideas become reality."

Abbie Hutty MEng (Hons) CEng FIMechE MIET
Lead Spacecraft Structures Engineer, ExoMars Rover Project
Airbus Defence and Space



Yewande says that D&T is global!

ARUP

"I have found that the design skills I learnt in school and at university have helped me become a 'global citizen' – able to develop solutions to problems in very different parts of our world."

Yewande Akinola
Design Engineer, ARUP

D&T supports a wide range of careers!

"Design and Technology teaches young people to 'think with their hands.' The ability to use tools and materials to solve problems is vital, and is as important in medicine and surgery as in the jeweller's workshop or the sculptor's studio. Now more than ever, D&T is a crucial subject for every young person."

Professor Roger Kneebone Professor of Surgical Education and Engagement Science, Imperial College London

Holly says I earned as I learned!

JCB

"The mix of practical and theoretical learning in D&T suited me and so I looked for career routes with the same approach. I started with the Higher Apprenticeship engineering scheme at JCB which provided valuable on-the-job experience whilst earning at the same time. Having completed my Mechanical Engineering degree I am now a Design Engineer at JCB."

Holly Broadhurst Design Engineer, JCB

Career prospects

As well as job satisfaction the rewards will include a good salary and good promotional prospects. The average salary for designers is growing much faster than the UK average and engineers typically earn £25,000 to £40,000 more than the national average. Alternatively, you may decide to be an entrepreneur and start your own company or business.

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Visit www.data.org.uk for more detailed information on the qualification and career routes outlined in this pamphlet. To view a 10-minute video entitled 'What is D&T and why do we need it?' go to tv.data.org.uk/news or scan the QR code.