



Options

GCSE Design and Technology

Design and Technology is fundamentally about converting ideas and raw materials into products and services that we use in our everyday lives.

Everything around us has been designed, from the cars we drive, the clothes we wear, the buildings we visit the programs we watch, even the deodorant we spray, they have all been designed, they have all been made.

Do you like to....

Solve problems **FIX**

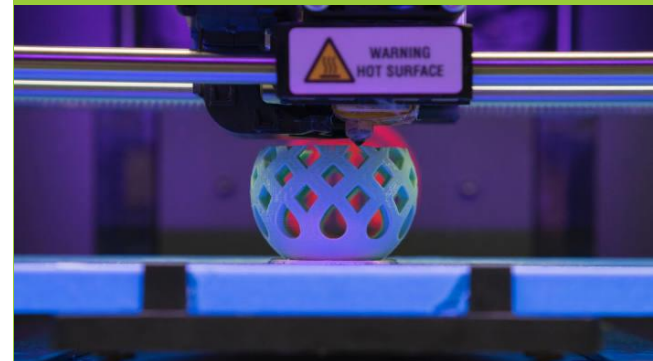
DRAW take risks

Create **MAKE** **Invent**



The Design and Technology Department

- ▶ The Design and Technology Department at Redhill School is a vibrant, creative and popular area. It provides a stimulating, challenging and high quality technological and design based experience, for all of its students throughout key stage 3 and 4.
- ▶ The department offers a wide range of facilities including a CAD studio and two specialist workshops.
- ▶ Engineering equipment such as a CNC Router, Laser Cutter, 3D Printer as well as specialist wood and metal based equipment enable students to manufacture quality products whilst also developing their understanding of manufacturing materials and processes.



Why choose D&T?

Our world is changing rapidly – and we need to prepare for the unknown.

This GCSE offers:

- Transferable skills
- Creative skills
- Applied Maths and Science
- The chance to make stuff and have lots of fun!

Design and Technology is a phenomenally important subject, logical, creative and practical. It provides the opportunity for children to apply what they have learnt in Maths and Physics.

Sir James Dyson.

DRIVE CHANGE

Tesla cars electric vehicles are safer, faster and more fun to drive than gas powered cars.
Tesla also make solar energy systems to charge cars at home



REINVENT THE WHEEL

This collapsible wheel transforms lives
British designer, Duncan Fitzsimons was contacted by many wheelchair users when he unveiled his folding bike wheel.
Folding wheels allow users to fit their wheelchair into car boots and luggage racks easily



BRIGHTEN SOMEONE'S DAY

Emma-Jayne Parkes and Viviane Jaeger make rainwear that changes colour when wet.

Decorated with smart 'hydrochromatic ink' which goes transparent when wet to reveal colour .



CREATE AN ICON

Have a breakthrough idea that changes the world!

CHANGE LIVES

1.2 billion people live without electricity.
The world's most affordable solar light (SM100) can replace dangerous and unsustainable light sources e.g. kerosene lamps



Design and Technology GCSE Qualification



QUALIFICATION AT A GLANCE

This qualification is linear. Linear means that students will sit all their exams and submit all their non-exam assessment at the end of the course.

ASSESSMENT:

- 50% Written Assessment
- 50% Non Exam Assessment (Coursework)

SUBJECT CONTENT

- Core technical principles
- Specialist technical principles
- Design and making principles.

CROSS CURRICULAR INFORMATION:

- 15% of the exam will assess maths
- 10% of the exam will assess science.

ASSESSMENT

Non Exam Assessment (NEA)

Paper 1

Paper 1:

- Written exam: 2 Hrs
- 100 Marks
- 50% of GCSE

Section A

- **Core technical principles**
- A mixture of multiple choice and short answer questions assessing a breadth of technical knowledge and understanding. **(20 Marks)**

- **Specialist technical principles**
- Several short answer questions (2–5 marks) and one extended response to assess a more in depth knowledge of technical principles. **(30 Marks)**

- **Design and making principles.**
- A mixture of short answer and extended response questions. **(50 Marks)**

Non- Exam Assessment (NEA)

- Non-exam assessment (NEA): 30–35 hours approx.
- 100 marks
- 50% of GCSE

The Task

- **Design and make task**
- **Identifying and investigating design possibilities**
- **Producing a design brief and specification**
- **Generating design ideas**
- **Developing design ideas**
- **Analysing & evaluating**

- Contextual challenges are released annually by the exam board on 1 June in the year prior to the submission of the NEA.
- Students will produce a prototype and a portfolio of evidence.
- Work will be marked by your Design and Technology teacher and moderated by AQA

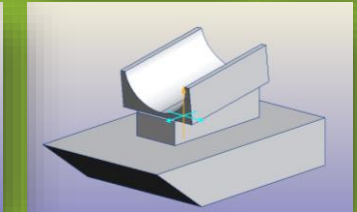
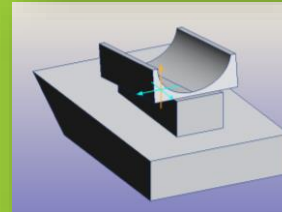
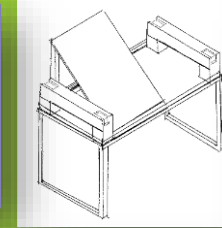
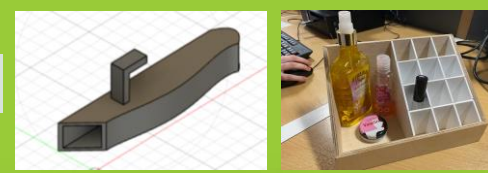


Design and Technology GCSE.

Non Examined Assessment (NEA)

- ▶ The NEA is a single task that contributes 50% of all marks for the Design and Technology GCSE.
- ▶ You will be given a choice of a number of contextual challenges (Themes), which you will be required to research and investigate in order to find a design problem to solve.
- ▶ As a designer, you will consider the design problem, from the point of view of a potential client/customer which will lead to a design brief and specification being produced. You will develop a series of designs of which one you manufacture and produce a prototype of. This will be tested and evaluated.
- ▶ Your portfolio (Digital), will be approximately 30-35 hours of work, this will also include the making of the final prototype.

Example projects



Design and Technology

Transferable skills.

What skills will you gain from studying in Design and Technology?

Further education and career Opportunities.

Whether you go onto study design at A level, BTEC or undertake an apprentice training based qualification, a GCSE qualification in Design and Technology will provide support you with entering and of the following employment areas:

- | | | |
|--|--|---|
| <input type="checkbox"/> Engineering | <input type="checkbox"/> Manufacturing | <input type="checkbox"/> Architect |
| <input type="checkbox"/> Photography | <input type="checkbox"/> Graphic design | <input type="checkbox"/> Furniture design |
| <input type="checkbox"/> Construction and building services | <input type="checkbox"/> Fashion styling | <input type="checkbox"/> CAD technical and IT |
| <input type="checkbox"/> Motor vehicle – technology and repair | <input type="checkbox"/> Art and design | Jobs. |
| <input type="checkbox"/> Civil engineering | <input type="checkbox"/> Media | <input type="checkbox"/> Project management. |

BEING ANALYTICAL

Embrace new knowledge, process information. Apply experiences from other subject areas. Make informed decisions based on knowledge acquired and apply logical reasoning.

GOOD COMMUNICATION

Explain and present ideas clearly and effectively. Use appropriate verbal, written and graphical methods of communication. Listening and responding to others' views.

GOOD TEAMWORK

Value the skills of others. Value diversity and difference. Understand how to work with others to get a task done. Know the value of negotiation and be able to work fairly with others.

TRANSFERABLE SKILLS GAINED BY STUDYING DESIGN AND TECHNOLOGY.

BEING INNOVATIVE

Challenge existing ideas. Generate new ones. Question existing thinking. Solve problems to make peoples lives better.

USING INITIATIVE

Adapt to changing circumstances. Self-motivation towards completing tasks. Identifying when independent research is required. Working through a problem and solving it.

BEING ORGANISED

Managing own time in order to plan work schedule. Review and revise own schedule to stay on time and meet deadlines. Planning when limited equipment available.