



Head of Department Welcome

Thank you for your interest in Glebelands School and the Design and Technology department. I am pleased that you are considering applying for the advertised position and hope that the department brochure will provide you with the information you require to give you an insight into the department.

We are a very friendly, close-knit department of four full time members of staff, one part time, and two part time technicians. We pride ourselves on delivering the very best lessons we can, ensuring Design and Technology remains an extremely popular subject at Glebelands School.

Working closely together is key to our success, whether through our regular Teaching and Learning meetings or over a cuppa at breaktime in the Design and Technology staff room, we are always chatting and sharing ideas.

As a new member of staff, be it an ECT or an experienced teacher, you would be actively encouraged to contribute your ideas and input in to our ever evolving, aspirational department.

We are extremely lucky to not only have an amazing team, but also excellent facilities. There is also plenty of opportunity to explore other areas of interest through extra-curricular activities such as Thrive and after school clubs; currently our year Robotics teams are Regional champions!

This is an exceptional opportunity for a dynamic teacher to become part of our team. The successful candidate will align to both the school's and the department strategic vision, have a drive and energy to help shape the curriculum and ensure the learning environment is one in which all of our students will thrive.

We look forward to hearing from you!

Miss Tamsin Mitchell Head of Department













Design & Technology Department Vision Statement

Design and Technology is an inspiring, rigorous and practical subject. Using creativity and imagination, students design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw upon disciplines such as Mathematics, Science, Engineering, Computing and Art. Students learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present Design and Technology, they develop a critical understanding of its impact on daily life and a wider world. High - quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation. We are keen to let students enjoy the practical nature of Design and Technology whilst the knowledge based learning is key to helping students to become higher-level learners. We strive to equip students with the skills and qualifications to go on and become the next generation of creative practitioners in their chosen field. Our mission is to build confidence and encourage students to take ownership of their work and to develop their thinking into creative ideas. We are a cohesive department, linked between subjects, which offer students a holistic experience of the design process from sketch to final outcome.

We offer a broad curriculum at both Key Stage 3 and 4. Students are taught to problem solve and be independent learners through a range of projects which build on their skills learnt in previous years.

Students should have opportunities to build their cultural capital outside of the classroom; therefore, we offer extra-curricular opportunities such as robotics competitions, food club and STEM events for KS2 primary students.

Students who leave Glebelands having studied Design and Technology at Key Stage 4 will be independent learners, with a drive to solve real world problems. They will have a broad experience of materials to work with as well as the theory knowledge to back it up. They will be students who rise to challenges and enjoy working as part of a team.

It is our purpose in teaching Design and Technology to ensure students leave Glebelands being able to:

- Develop an inquisitive nature through the desire to learn
- Work independently, they will not rely on others to tell them what to do next
- Explore different ways of solving real world design problems
- Develop design ideas with a sound knowledge of a broad range of materials and skills
- Confidently apply knowledge to a wide range of design scenarios
- Understand how Design and Technology fits in to the bigger picture of the curriculum, such as Maths, Science and Geography.





About the Design & Technology Department



The Design and Technology department is a hugely successful department situated in its own building where it is home to four technology disciplines. The department consists of four full time and one part time members of teaching staff and two part time technicians. The disciplines which are delivered through the National Curriculum are:

- Food Preparation and Nutrition
- Papers and Boards (Graphics)
- Timbers
- Textiles

Each teaching room is set up with a desktop computer, sound system, projector and visualiser to support the delivery of a lesson. Each specialist room are well equipped with a range of up to date bespoke tools and machinery which enhances our students experience by underpinning their learning.

Curriculum Delivery Structure

Key Stage 3:

- In Year 7 and 8 each discipline is timetabled for three 100 minute lessons over a fortnight and are placed in a 10 week rotation. This provides class sizes of around 24 students on average.
- In Year 9 each discipline is timetabled for four 100 minute lessons over a fortnight and are placed in a 6 week rotation. Within this carrousel Art and Music are also placed to provide class sizes of around 24 students on average.

Key Stage 4:

• In Year 10 and 11 each discipline is timetabled for three 100 minute lessons over a fortnight. The department is a very popular option with all disciplines having a GCSE class and class size is on average 20 students.



Food Preparation and Nutrition

Department Staff

- Mr David Nibloe (F/T)
- Mrs Naomi Albrecht (P/T)
- Mrs Emma McConaghey (Technician)

Facilities

- Two fully equipped food practical rooms
- Dry food store
- Consumables dry store
- Laundry room equipped with washing machines and condenser tumble driers
- Student coat and bag racking area
- Office areas

Key Stage 3 Curriculum Overview

Each year sees a progression of practical skills.

Year 7 focuses on food hygiene and safety before moving on to nutrition and healthy eating underpinned by the Eatwell Guide.

Year 8 has a focus on shopping and budgeting, recipe modification and scientific functions are reflected in practical work.

Year 9 has macronutrients and scientific functions as a core before a mini-project responding to a brief.

Key Stage 4 Curriculum Overview

Exam board: AQA - https://www.aqa.org.uk/subjects/food/gcse/food-preparation-and-nutrition-8585

GCSE Food Preparation and Nutrition focuses on practical cooking skills to ensure students develop a thorough understanding of nutrition, food provenance and the working characteristics of food.

- Written exam (50%) 1 hour 45 minutes
- Non-examined assessment (50%)
- Task 1 (15%): Food investigation
- Task 2 (35%): Food preparation and assessment including 3 hour practical exam





Curriculum Map

Food Nutrition and Health
Cooking of Food and heat transfer
Food Science
Functional and chemical properties of food
Food Safety
Bacterial Contamination

Year 11

Food Nutrition and Health
Cooking of Food and healt transfer
Food Science
Functional and chemical properties of food
Food Safety
Bacterial Contamination
Food Provenance

Year 10

Knowledge Prac Carbohydrates: Ove Caramelisation, Béct Dextrinisation Fats: Shortening/Plasticity Shaj Vitamins & Minerals Past Proteins: High

ractical Skills ven/Hob/Grill échamel & reduction sauce

Year 9

Knowledge
Food hygiene
Budgeting & shopping
Bread ingredients & function
Gelatinisation
Key Temperatures
Time planning
Egg production ethics

Practical Skills
Knife skills
Béchamel
High risk foods
Grill/Oven/hob
Pastry making
Testing for readiness
Shaping/forming

Year 8

Knowledge
Bacterial Growth
Sensory analysis
RDA's and nutrition labels
Eat well Guide
Scone ingredients & function

Practical Skills
Measuring/weighing
Knife skills
Making batter
Cake making techniques
Specialist equipment — electri
whisk

Year 7





Curriculum Map

NEA focusing on one of the following: Paper & Boards / Textiles / Timbers

The impact of new and emerging technologies, Energy generation and storage, Smart materials, Materials types (Textiles, Timbers, Papers & Boards, Polymers, Metals), Mechanisms, Electronics, Programmable components, Environmental Social and Economic challenges, Looking at the work of others, Maths in D&T

tnowledge Smart materials Sublimation Mechanisms LCA of timbers/polymers Working properties of materials

Practical Skills
Modelling, Prototyping
CAD - Photoshop
Sublimation printing
Product Analysis
Cutting, shaping and
assembly of mixed materia

Knowledge
Fast Fashion, Sustainability
Properties of Fabrics
Life Cycle Analysis (LCA)
Sublimation
Movement, levers, cams
Working properties of
metals

Sawing/cutting deforming sheet metal

Practical Skills
Machine sewing, Applique,
Seams, Zips, Embroideny.
Programmable Components
Computer Aided

Isometric sketching, Nets

CAD - 2D design Sawing/shaping wood

imbers, Polymers Pro omputer Aided Design Cor (AD) Ma mart materials Use eaith & Safety wo

Design & Technology

Within the multi disciplined department there are specialist teachers, however all teaching staff are able to teacher all the material areas and across both Key Stages.

Graphics

Year 11

Year 10

Year 9

Year 8

Year 7

Specialist teacher Miss Olivia Treverton-Jones, F/T

Timbers

Specialist teacher Miss Katherine Door, F/T

Textiles

Specialist teacher Miss Tamsin Mitchell, F/T)

Miss Alysia Felmer (Technician, P/T)

Communal Facilities

- CAD/CAM equipment
- A2 laser printer
- A3 laser printer and scanner
- Staff toilets

Key Stage 4 Curriculum Overview

Exam board: Pearson Edexcel

https://qualifications.pearson.com/en/qualifications/edexcel-gcses/design-and-technology-2017.html

GCSE Design and Technology encompasses all material areas, rather than focussing solely on one. Students learn about each material (textiles, timbers, papers and boards, metal, polymers, electronics etc), to be able to use them together to problem solve given contexts.

- Written exam (50%) 1 hour 45 minutes
- Non-examined assessment (50%)

Key Stage 4 2022 Results:

Design and Technology 9-4 87%





Paper and Boards (Graphics)

Facilities

- 30 suite of high-spec computers
- Section of tables and chairs
- Large storage cupboard
- Communal A3 colour laser printer and scanner
- A4 sublimation printer
- A3 flat heat press
- Cylindrical heat press
- A2 vinyl cutter
- Badge press
- Corner sink and storage

Key Stage 3 Curriculum Overview

The curriculum has been designed to scaffold knowledge, understanding and application in a practical learning environment. Students are introduced to two CAD software packages, 2D Design in Year 7 and 8 and Photoshop in Year 9. These are used together with theory to strengthen practical outcomes.

Year 7: Board Game Project

The project focuses on introducing the use of CAD (2D Design) to create a board game (counters, board and packaging) to meet the need of a given context. Theory covers knowledge and application linked to papers and boards including: lifecycle analysis and properties of paper and board.

Year 8: Clock and Packaging

The project focuses on developing drawing skills and the use of CAD (2D Design) to create a clock and packaging in the style of a chosen graphic designer. Theory covers knowledge and application linked to polymers and papers and boards including: lifecycle analysis and giving depth responses on material identification and properties for polymers and papers and boards

Year 9: Mug and Packaging

The project focuses on the use of CAD (Photoshop) to create a themed design which can be sublimated onto a blank 110z mug. Theory covers knowledge and application linked to design development, sublimation production process and depth responses on material identification properties of paper and board.

Key Stage 4 2022 Results:

Papers and Boards 9-4 90%



























Timbers

Facilities

- 2 fully equipped workshops
- Traditional hand tools (coping saws, tenon saws, files, planes...)
- Traditional machinery (bandsaw, pillar drill, fretsaw, metal lathe, wood turning lathe...)
- Power tools (drills, router, orbital sanders...)
- Large, well stocked store
- Specialist machines (power hacksaw, circular saw, grinder...)
- Dedicated metal work area, including sand casting





Key Stage 3 Curriculum Overview

Year 7: Sea, Sail and Store Projects

Students will be introduced to and develop their practical skills within the workshop using hand tools and machinery across three design and make tasks. Students will work across two material areas: polymers and timbers. Students will design to set contexts; learning to problem solve and design for others needs & wants.

Year 8: Light and Movement Projects

Students develop their understanding of types of movement and levers before manufacturing a small mechanical toy made from timbers. Students will consider religious/cultural design by developing a candle holder that reflects a chosen celebration, this will allow students to develop their practical skills working with manufactured boards and sheet metal.

Year 9: Lap Tray Table

The project focuses on design development and modelling as part of the iterative cycle. Students build on prior knowledge for their practical skills and knowledge linking specifically to timbers.

Key Stage 4 2022 Results:

Timbers 9-4 77%





Textiles

Facilities

- 12 Janome Sewing machines
- 2 Janome Embroidery machines
- 3 Janome Overlockers
- Heat Press
- Design Tables
- Facilities for screen printing, batik, felting and marbling
- Two sinks and fabric storage cupboard

Key Stage 3 Curriculum Overview

In Textiles students are taught to be confident on using the sewing machine from the outset. By building their skills over the Key Stage they add to a portfolio of more and more challenging techniques to draw upon when designing and making.

Year 7: Phone Pillow and Pencil case

To ensure confidence and a positive outcome from the start, students create a phone pillow with a CAD (2D Design) sublimated print. Developing on these skills students make a pencil case with applique and machine embroidery, using upcycled jeans to focus on sustainability.

Year 8: Worry Monster

Continuing on the focus on sustainability, students learn about how fibres are sourced, to make an informed decision about the fabrics they will use to make a Worry Monster. Developing their independence, students choose their own end user to design and make the product for.

Year 9: Be Safe, Be Seen

By year 9 students are given autonomy in their project, choosing not only who to design and make for, but what product they will make. Using their knowledge of smart and modern materials, they design and make a product to keep their chosen client safe and seen at night.

Key Stage 4 2022 Results:

Textiles 9-4 100%













Key Stage 4 Outcomes























What our students said when asked to finish the sentence 'I like Design and Technology because....'

'Of the skills we learn from the practicals of D&T in all rotations.'

'It keeps me entertained/ productive and also offers me time to work with/meet new people.'

'There is freedom for what you want to make.'

'It is all about your ideas and not being told what to do.'

'You can show your creativity in a project and be proud of it. And plan a project and make it come to life.' 'It is a more fun lesson style than usual.'

'There's lots of practical lessons and more freedom in ideas of what designs you want to do than in other lessons.'

'I like D&T because of the <u>teachers!</u>'

'It allows you to be creative. You get to make many things throughout Textiles, Graphics, Timbers and Food! It is really fun!'

'It is fun and interesting and you learn new things.'

'It lets me learn skills that I wouldn't usually learn in other lessons. It also offers more options for future jobs.'

'It is practical and practical is interesting to do.'

'I feel it actually will help me in my later life and I like all the teachers.'

'You don't do the same D&T for the whole year, you do different D&Ts every half term. It is also fun because you do lots of practical work.' 'I enjoy all of the practical aspects. I also like D&T because I can push and challenge myself in all of the things I can create.'



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