





















# **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 one 50 minute lesson and one 100 minute lesson per week 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 two 100 minute lessons a week and are placed in a 6 week rotation. Within this carrousel Art and Drama are also placed to provide class sizes of around 22 students on average.

## **Key Stage 4:**

• In Year 10 and 11 each discipline is timetabled for one 50 minute lesson and one 100 minute lesson per week. The department is a very popular option with all disciplines having a GCSE class and class size is on average 24 students.









# **Food Preparation and Nutrition**

## **Department Staff**

- Mr David Nibloe (F/T)
- Mrs Naomi Albrecht (P/T)
- Miss Alysia Felmer (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**

**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.

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

**Level 1/2 Hospitality and Catering** focuses on the skills needed to follow a career in industry. Topics such as nutrition and menu planning are covered alongside legislation and health and safety.

Exam board: Eduqas—https://www.eduqas.co.uk/qualifications/level-1-2-vocational-award-in-hospitality-and-catering/#tab keydocuments





## 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 NUTFITION AND HEARTH

Cooking of Food and heat transfer
Food Science

Functional and chemical properties of food
Food Safety

Bacterial Contamination

Year 10

Knowledge Prac Carbohydrates: Ove Caramelisation, Bécl Dextrinisation Pasts: Shortening/Plasticity Shap Vitamins & Minerals Pasts

ractical Skills Iven/Hob/Grill échamel & reduction sauce

> ng/forming making

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

nowledge acterial Growth ensory analysis DA's and nutrition labels at well Guide cone ingredients & function

Practical Skills
Measuring/weighing
Knife skills
Making batter
Cake making techniques
Specialist equipment – electric
whisk
Presentation of food

Year 7









Year 11

Year 10

Year 9

Year 8

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 O&T

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

ractical Skills
Addelling, Prototyping
AD - Photoshop
ublimation printing
roduct Analysis
utting, shaping and
ssembly of mixed materia

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

Designing for a client Isometric sketching, Nets CAD -2D design Sawing/shaping wood Drilling wood/metal Sawing/cutting deforming sheet metal

Knowledge Sources of fibres Yarns, woven fabrics Timbers, Polymers Computer Aided Design (CAD) Smart materials Health & Safety Practical Skills
Machine sewing, Applique,
Seams, Zips, Embroidery.
Programmable Components
Computer Aided
Manufacture (CAM)
Use of hand tools and
workshop machinery



# **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

Specialist teacher Miss Olivia Treverton-Jones, F/T

Timbers

Specialist teacher Miss Katherine Door, P/T (mat leave) Specialist teacher Mrs Lowe (mat cover)

Specialist teacher Miss Ritchings 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 (Timbers/Papers & Boards) https://qualifications.pearson.com/en/qualifications/edexcel-gcses/design-and-technology-2017.html

Exam board: AQA (Art Textiles)

https://www.aqa.org.uk/subjects/art-and-design/gcse/art-and-design-8201-8206/subject-content/textile-design

## Key Stage 4 2023 Results:

Design and Technology 9-4 75%











# 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 2023 Results:

Papers and Boards 9-4 88%



































# **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 2023 Results:

Timbers 9-4 72%











# **Textiles**

#### **Facilities**

- 15 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.



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: Koinobori

Year 9 students are given experience of a project more aligned to Art Textiles GCSE. They study different Textiles artists, and use their work to inspire them to use new techniques such as batik and couching.

#### Key Stage 4 2023 Results:

Textiles 9-4 65%



















# **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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