# Design Technology

Design and Technology at Idsall School offers a wide range of practical experiences for key stages 3, 4 and 5. In Key Stage 3, all students rotate termly to improve their knowledge and skills in Product Design, Textiles and Food Technology.

In Product Design, students work with a range of resistant materials including woods, metals and plastics. They work with a variety of traditional hand working methods, as well as modern technologies including laser cutting and 3D printing. Students will become confident in the use of CAD software.

In Food Technology, students are asked to bring the ingredients for their dishes, and bring containers suitable to take the finished product home. Aprons are provided at school. To give plenty of time for shopping, the detail of the lesson is discussed with students at least a week before the lesson and the staff encourage students to prepare the ingredients themselves as part of their homework.

In Textiles, students are taught about the versatility of fabrics, and learn about modern e-textiles. They will become confident in stitching by hand and using sewing machines, as well as being able to use dye sublimation to print on fabrics, and laser cutting. Students are encouraged to be experimental in their textile work.

## Key Stage 3

### Product Design

Year 7 Robots

- Learn a range of woodworking skills
- Know how to use machinery safely
- Be able to use CAD software
- Be able to use CAM machines
- Be able to sketch using Isometric, and apply colour using rendering

Year 8 Time Design

- Learn about Designers and Design Movements
- Be confident in the use of 2D Design Tools
- Be able to use CAM machines

Year 9 Individual design based on given brief

- Develop quality of sketching using Isometric and Orthographic
- Communicate ideas in 3D using model making
- Be able to make a prototype using CADCAM
- Manufacture a product in the workshop

**Textiles**

Year 7

- Sketching, design based on culture, hand stitching, and machine stitching

Year 8

- Sketching from different angles, character design, hand stitching, machine stitching, 3D effects, SMART fabrics, Textures.

Year 9

Ipad Cases

- CAD, Photoshop, dye sublimation, machine stitching, investigate decorative techniques.

**Food Technology**

Year 7

- Health and Safety, Knife Skills, Fruit salad, Coleslaw, Pasta salad, Pitta pizza, scones, rock buns

Year 8

- Health and Safety, Knife Skills, Dips, Chocolate slices, Healthy Slices, Bread Rolls, Pizza, Spaghetti Bolognese.

Year 9

- Macaroni Cheese with roux sauce, Sweet and Sour Chicken, Burgers, Muffins, own choice of dish, Chicken Curry, Swiss Roll, Brownies.

## Key Stage 4

### GCSE Design and Technology

50% Design and Making practice (controlled assessment)
50% Written Paper (2 hour exam)

This course has been designed to allow students to design and make products with creativity and originality, using a range of materials and techniques. Packaging, labelling and instructions are encouraged as part of the complete design proposal and advertising. Points of sale can be used to supplement the making experience and help create products which can be evaluated for their commercial viability.

During Year 10, Graphic design is taught along with CAD/CAM and 'hands on' focused practical tasks using workshop tools and equipment. Theory lessons are taught alongside practical lessons throughout the year. Students will complete a practise Design and Make assignment to prepare for the controlled assessment.

In Year 11 students design and manufacture a high quality product, which is internally assessed. During Y10 and Y11 students are able to access an additional session 6 to support with catch up and extending their learning.

### GCSE Food Preparation and Nutrition

Students studying food preparation and nutrition will:

- be able to demonstrate effective and safe cooking skills by planning, preparing and cooking a variety of food commodities whilst using different cooking techniques and equipment
- develop knowledge and understanding of the functional properties and chemical characteristics of food as well as a sound knowledge of the nutritional content of food and drinks
- understand the relationship between diet, nutrition and health, including the physiological and psychological effects of poor diet and health
- understand the economic, environmental, ethical and socio-cultural influences on food availability, production processes, diet and health choices
- demonstrate knowledge and understanding of functional and nutritional properties, sensory qualities and microbiological food safety considerations when preparing, processing, storing, cooking and serving food
- understand and explore a range of ingredients and processes from different culinary traditions (traditional British and international) to inspire new ideas or modify existing recipes.

SUMMARY OF ASSESSMENT

**Component 1: Principles of Food Preparation and Nutrition**

**Written examination: 1 hour 45 minutes**
**50% of qualification**

This component will consist of two sections both containing **compulsory questions** and will assess the six areas of content as listed in the specified GCSE content.

- **Section A**: questions based on stimulus material.
- **Section B**: structured, short and extended response questions to assess content related to food preparation and nutrition.

**Component 2: Food Preparation and Nutrition in Action**

**Non-examination assessment: internally assessed, externally moderated**

**Assessment 1: 8 hours**
**Assessment 2: 12 hours**
**50% of qualification**

**Assessment 1: The Food Investigation Assessment**
A scientific food investigation which will assess the learner's knowledge, skills and understanding in relation to scientific principles underlying the preparation and cooking of food.

**Assessment 2: The Food Preparation Assessment**
Prepare, cook and present a menu which assesses the learner's knowledge, skills and understanding in relation to the planning, preparation, cooking and presentation of food.

## Cambridge Nationals Child Development

## Key Stage 5

## A Level Product Design

**In the AS year, students study theory, carry out focused practical tasks, and complete a practise Design and Make project.**

**The A Level course consists of a Design and Make project, which is internally assessed, and two externally assessed written papers. These are all completed in the A2 year,**

**What's assessed**
Technical principles
**How it's assessed**
• Written exam: 2 hours and 30 minutes
• 120 marks
• 30% of A-level
**Questions**

Mixture of short answer and extended response.

**What's assessed**
Designing and making principles
**How it's assessed**
• Written exam: 1 hour and 30 minutes
• 80 marks
• 20% of A-level
**Questions**
Mixture of short answer and extended response questions.
**Section A:**
• Product Analysis: 30 marks
• Up to 6 short answer questions based on visual stimulus of product(s).
**Section B:**
• Commercial manufacture: 50 marks
• Mixture of short and extended response questions

**What's assessed**
Practical application of technical principles, designing and making principles.
**How it's assessed**
• Substantial design and make project
• 100 marks
• 50% of A-level
**Evidence**
Written or digital design portfolio and photographic evidence of final prototype.

**For further advice or to find out more about the Design Technology curriculum at Idsall School, please contact Mrs H Lowndes.**