



## Design and Technology (Food and Nutrition) curriculum

### The Vision for all our students who study Design and Technology (Food Nutrition) *Vision / Intent*

D&T education makes a unique and valuable contribution to the education and preparation for life for every child – at work or leisure. For some it can be the start-point for highly satisfying and successful careers in industries that bring increasing economic benefit to the UK. Design and technology aims to give our students the skills and abilities to engage positively with the designed and made world and to harness the benefits of technology becoming creative, skilled problem solvers and educated consumers. They learn how products are designed and manufactured, how to be innovative and to make creative use of a variety of resources including digital technologies, to improve the world around them. In studying Design and Technology, it is they will develop a broad range of knowledge, skills, and understanding, in a wide variety of materials and processes. Pupils will design and make products that solve real and relevant problems within a variety of contexts. At its core is developing skills, creativity and practical skills. Students learn to design and make products within different contexts whilst considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Food and Nutrition is an integral part of the Technology curriculum at King Edward's. Food is a vital part of our daily lives and is essential for life.

As our students become adults and have busy lives, it is easy to choose food which is ready prepared. However, it is often more nutritious and often cheaper to cook simple, homemade, delicious food. At King Edward VI High School, students will develop their knowledge and understanding of nutrition, healthy eating, food preparation, hygiene, cooking techniques and sensory characteristics. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

#### Rationale *(Implementation)*

Our curriculum is based on the key elements of Design and Technology 2013 National curriculum

#### Design and Technology

##### Designing-

- use research and exploration, such as the study of different cultures, to identify and understand user needs
- use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses
- develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools

##### Making

- select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture
- select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties

##### Evaluating

- test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups
- understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists



## Food and Nutrition

- Give our students vital skills that enable them to feed themselves and others affordably and nutritiously, now and in later life.
- Encourage the development of high skills and resilience in a safe environment, allowing students to demonstrate commitment and act on feedback.
- Empower students to enable them to follow a recipe and substitute ingredients and cooking methods as appropriate, demonstrating an understanding of food choice eg, vegetarianism, food intolerances, allergies.
- Develop understanding that will allow students to become discriminating consumers of food products, enabling them to participate in a society in an active and informed manner.
- Engage with students to encourage them to understand the environmental factors which affect the planet/ sustainable food production and give them an appreciation of how we can reduce food waste personally and in the catering industry.
- Allow students to explore several multicultural perspectives concerning food. Students will enhance their knowledge and acceptance of people from a variety of cultural backgrounds and religions. Encouraging an awareness and acceptance of diversity within our communities.
- Our hope is that through cooking and nutrition lessons, students are provided with a context through which to explore the pleasure, richness and variety that food adds to life.

2

We want students to succeed and become creative problem solvers and instil a love of designing and creating use a wide range of materials and ingredients. We aim to give students a broad view of Designing and core principles that will form an essential part of education and preparation for life for all young people. For some this will be the start-point of graduate, technician or craft level careers in the creative, engineering, manufacturing and Hospitality and Catering sectors.

The DT curriculum is broken into KS3 & KS4. At KS3 students rotate around 3 core areas during the academic year. They will all gain an experience in Designing and making with timber, polymers and metal, designing and making with paper and board, and Food and Nutrition. Dividing the curriculum gives all our students the opportunity to gain experience in core skills and knowledge and being taught by a subject specialist. This allows all students to understand what would be expected in the GCSE options they can select from in Year 9. All groups are mixed ability giving students with a range of abilities to succeed in different aspects of designing, making and cooking. The students will take on challenging projects that are differentiated to support and challenge all abilities. Tasks are differentiated to let all succeed and flourish if they have a particular aptitude.

The project work in KS3 develops the skills and knowledge learnt in the previous year in Design & Technology and Food and nutrition. Most students come from KS2 with very limited or no experience in a practical workshop or food area. Students in year 7 are given introduction into basic core skills on all 3 rotation areas and a focus on health & safety, and food hygiene. These basic skills are then built in years 8 and 9 with a view to develop the necessary skills to access the GCSE course offered in KS4.

In Technology and Food pre- printed booklets are used helping with consistency and common practice. Students are encouraged to use guided self-assessment throughout their work to develop independence, pride and ownership for their own learning. Homework is used to develop research skills, knowledge and retention related to core knowledge and technical principals mapped from the GCSE core content for the written examination.

The department has good workshop and Food work areas and students are given the opportunity to use a wide range of tools equipment and CAD/CAM. CAD/CAM is a core focus and taught through project work, so students are capable in a range of software and CAM when they end their year 9



studies and are ready for choosing their GCSE options. Specialist staff allows for the higher level of skills and Health and safety.

### **KS4 exam courses**

In Year 9 students select their options and can choose from GCSE Design and Technology 9-1 (EDUQAS), GCSE Food Preparation and Nutrition 9-1 (EDUQAS) or Cambridge nationals Child development Level 1 /2. The KS3 curriculum prepares students so they are ready to start these courses with some additional skills that are taught in year 10. These courses provide students with the experience and qualification ready to progress to vocational careers, further and even higher education to a vast range of job sectors. These courses support both ends of the spectrum allowing for higher level creative jobs and more vocational based apprenticeships. Gifted and talented students are given access to advanced CAD allowing them to develop independent skills in industry level software. Students who study Food Preparation are provided with opportunities to visit and experience professional level catering at further education colleges. Able and talented Students studying GCSE Design and Technology are encouraged to pursue creative and are given a talk from a local Product Design and Engineering company with strong links to the school.

### **SMSC**

#### **Spiritual development in Design and Technology**

Spiritual development is of a very high importance in design & technology. The process of creative thinking and innovation inspires students to bring out undiscovered talents, which in turn breeds a self-confidence and belief in their abilities. It also challenges and appeals to the creative instincts that have driven humanity to discover, adapt and overcome.

#### **Moral development in Design and Technology**

In design & technology we seek to develop a sense of 'moral conscience' in our students, through focusing upon the moral dilemmas raised in designing and making new products. We teach students to understand the wider impacts on the environment when designing and making new products and expect them to consider carefully the materials & components they will use when designing and making. We encourage sustainable thinking through the active application of the '6 R's' and to highlight the impact on environmentally sensitive areas of the world. The 6 Rs include: reinvent/rethink, refuse, reduce, reuse/repair, recycle, replace/rebuy.

#### **Social development in Design and Technology**

Social development is a key feature of all design & technology lessons. We teach the concept of self-regulation to ensure that students accept responsibility for their behaviour and the safety of others. We encourage students to give each other reminders when standards fall short of the collective expectation. This establishes and maintains a safe, secure, learning environment. We place an emphasis on developing the ability to work with other and to accept each other's unique personality. We encourage effective conversations about the work we do through self & peer evaluation, and to give and accept constructive criticism as a vehicle to improve students learning outcomes.

#### **Cultural development in Design and Technology**

We develop wider cultural awareness in design technology through projects that have a connection with our past heritage and how our industrial routes have shaped our nation. We seek to expand student's knowledge of other cultures influences on design and manufacture including an increasing awareness of the influences digital manufacturing developments from other countries is having on the designing and making of products that we use.



## **British Values**

In Design and Technology, we are dedicated to promoting values which ensure that our students develop a strong sense of social and moral responsibility. We prepare the students for life in Modern Britain because values such as individual liberty, democracy, the law, mutual respect and tolerance.

### **Democracy**

During Design Technology children are encouraged to take the views and opinions of others into account but still have the right to make their own choices. Lessons also encourage children to take turns when speaking and when working practically with others. Opportunities are presented for pupils to understand that it is not always possible or right to have their own way and understand the value of compromise.

### **The rule of law**

In Design Technology children develop an understanding of the importance of safety rules when using tools and accept that if these rules are not followed that there are consequences

### **Individual liberty**

Children are given the freedom to express themselves through design and the creation of a wide variety of products in Design Technology. They are also encouraged to evaluate both products from a range of times and cultures and their own and each other's. Children also learn to accept that the ideas of others may not be the same as their own but are equally valid

### **Mutual Respect**

During DT lessons pupils are expected to listen to and consider the ideas and opinions of others even if they differ from their own. They are also expected to be able to take turns during discussions, resolve difficulties or make decisions, for example, when choosing materials for making a product. Design Technology also promotes the opportunity to offer supportive comments in evaluations that will improve learning outcomes in a way that is thoughtful and kind.

### **Tolerance**

Through Design Technology the children learn to appreciate the ideas of others that are different to their own and that many great design ideas originate from other cultures.

## **Concept of cultural capital**

Cultural Capital 'the essential knowledge that pupils need to be educated citizens, introducing them to the best that has been thought and said and helping to engender an appreciation of human creativity and achievement'.

Department: ICT

- KS3 curriculum focuses on e-safety and basic ICT skills to prepare students for the digital world and how to stay safe
- BTEC scenarios are relevant to society and put theory into a context
- Opportunities are being sort for students to engage in Enterprise extra-curricular projects

## **Cross-curricular opportunities, literacy and numeracy**

In Design and Technology there are numerous opportunities to develop numeracy and literacy. Design and Technology is a literacy rich subject with many key terms and words that are specific to it. We strive to the students to develop a subject specific knowledge of a vast number of words and terms. Students have to write in an analytical and evaluative way. The teaching staff make use of subject specific support cards and mats to help students of all abilities. Spelling and word meanings are tested in retention quizzes across KS3. Maths and numeracy are an important part of Design and Technology from basic measuring to calculating area and volume. For the GCSE Design and Technology there are specific maths questions within a Design context. We support students with numeracy cards and mats and work with the maths department to ensure the Maths skills needed to



answer GCSE exam questions. There are strong cross-curricular links with Science, Geography, and Art. Students develop knowledge of material properties, mechanisms and electronics that are in the Science curriculum, environmental and social issues in Geography and the study designers and design movements that link to Art and History. The Department work closely with Science to help run a KS3 Stem club that use the workshop facilities and equipment. The Department have participated in and won Stem Competitions with local schools and industry.

### **Careers (Gatsby benchmark 4 coverage)**

Design and technology teachers along with, Science and mathematics (STEM) subject teachers highlight the relevance of STEM subjects for a wide range of future career paths. All teachers emphasise the importance of succeeding in English and maths across both key stages. The vast range of careers area are a focus when teaching Design and Technology and Food & Nutrition in both KS3 and KS4, Designers and manufacturing companies are a focus for research and product analysis. Display boards across teaching rooms and workshops promote the range of careers related to Design and Technology and specific Designers as role models and something to aspire too. The Department actively promote Careers by teaching about and relating to the vast range of very successful Designers and Chefs from Britain. This is an integral part of schemes of work and lesson content and resources. Students will learn about Apple Products and Jonathan Ives, study Max McMurdo and his company restore and many more. Students in KS4 are given the opportunity to have a talk from a local Product Design and Engineering company help to high light the opportunities and careers that are available from vocational training and Degree Apprenticeships as well as further and Higher Education.

### **COVID- Impact and curriculum gap bridging Design and Technology**

During the 1st lockdown without online learning in place via google classroom short skills tasks were set for key stage 3 students focused on drawing, card modelling, research activities. Key stage 4-year 10 current year 11 were set practice-controlled assessment activities covering A01-A05 but missing any type of practical work. Focus on research design ideas modelling and Evaluating. Response and pupil engagement were very mixed across both key stages.

In the second lockdown with online learning in place but without access to subject specific resources and access to CAD for both key stages all work as knowledge based related to the core content needed to successfully sit the GCSE examination. Students worked through knowledge maps researching and answering 1-2 style exam questions. Building knowledge improving the students to independently use the internet resources to find out and answer questions on core knowledge related to materials and Design in our World topics like the 6Rs and sustainability. Engagement in lessons was better but work handed in was mixed.

Students missed core skills related to making, planning, CAD/CAM and the formal orthographic drawing to communicate a final product. They didn't do any making activities so the gaps were in the skills related to manufacturing. Using hand tools, machine tools, and CAD/CAM. A Significant part the DT GCSE controlled assessment.



We are proud of our students and their success:

*(impact) Key Stage 4 GCSE RESULTS*

<b>2017</b> 4+ : 54% % 5+ : 15% % 7+ : 0 %
<b>2018</b> 4+ : 63% % 5+ : 42% % 7+ : 5% %
<b>2019</b> 4+ : 40% % 5+ : 25% 7+ : 0%
<b>2020 Centre Assessed Grades(COVID)</b> 4+ : 83.3% 5+ :38.9 % 7+ : 13.9%
<b>2021 Teacher Assessed Grades (COVID)</b> 4+ : 68.28 % 5+ :46.9% 7+ : 6.3%
<b>2022</b> 4+ : 62.5% 5+ : 31.3% 7+ :6.3%
<b>2023</b> 4+ : 68.2 % 5+ :59.1% 7+ : 31.8%
<b>2024</b> 4+ 50% 5+ 36% 7+ 5.6
<b>2025</b> 4+ 89% 5+55.6% 7+ 22.9%

