

## **Subject – Technology**

**Subject Leader: Mrs Owen**

**Subject teachers: Mr Lambert, Miss Savigar, Mrs Rafique (Technician) , Mrs Hughes (Food Technician)**

### **Department aims:**

Design and Technology is a subject that provides students with the resources required to develop a wide range of skills that are relevant to all aspects of school and adult life. The subject has four focus areas that students can elect to work in. These are: Product Design, Child Development and Food Technology

The purpose of Design is to help students to:-

- Be creative and Innovative in their thinking and solutions.
- Be able to work independently, support others and work in teams
- Promote visual and aesthetic awareness in their ideas.
- Communicate effectively to others using a wide variety of techniques
- Use specialist ICT resources to support designing and making
- Make high quality 2D and 3D outcomes in a wide variety of media and materials
- Develop the skills to determine the direction of their work
- Recognise the need to challenge and extend themselves.
- Be aware of the impact and responsibility a designer has on the environment.

Design education at Birches Head Academy is a rewarding experience, where the aim for all students is to be confident in applying their skills, have the desire to achieve success and be proud of the work they do so that in leaving Birches Head they are capable, adaptable and successful members of society.

### **KS3**

In years 7, 8 and 9 our students move round a series of design and make assignments which are delivered by specialist teachers in specialist rooms. The aim in each project brief is to introduce and develop material specific skills as well as helping each student to learn how to apply a creative and analytical approach to problem solving. Every student has access to the full curriculum as they move through the projects, gaining experience and confidence working with the full range of materials. The specific projects we use are reviewed and developed each year, but are generally focused on the following:

- Food – learning nutrition, healthy diet, safe cooking practices and basic cooking skills.
- Resistant Materials – learning to work accurately with wood using a range of hand and machine tools. Including marking out, drilling, cutting (by hand and with a hegener saw), joining and finishing. They will also use computer aided design and manufacturing skills.
- Product Design – learning to present ideas using a range of skills including 2D and 3D sketching and ICT. This is delivered as a strand in every project as well as in a distinct project brief.

## **KS4 – Product Design**

At the end of year 9 students make their GCSE option choices which they then follow for 2 years to year 11. As a department we use the AQA exam board qualifications or Product Design and GCSE Food which consists of a 1.5 hour examination carrying 40% of the marks and one quality design project, worth 60% of the final mark.

Throughout the two year Product Design course, KS4 Students have the opportunity to tackle a range of projects in different materials. The design aspect of the course enables them to improve their understanding of the basic design process, to develop their ability to solve problems in a logical and creative way and to evaluate the success of their realised solutions. Through investigations and their involvement in practical work, students are expected to gain a fundamental knowledge of materials in their specialised area. They will learn about tools, equipment and processes and they should improve their levels of skill.

Students will also be taught about the importance of safety and it is anticipated that they will adopt safe working habits.

Presentation skills will include graphics which will involve the production of computer generated drawings as well as freehand and formal drawing. Students will be encouraged to make full use of our CAD/CAM facilities to realise their designs.

## **KS4 – Child Development**

This qualification is for students aged 14-16 who wish to develop applied knowledge and practical skills in child development. It is designed with both practical and theoretical elements, which will prepare students for further qualifications in Child Care, Health and Social Care, Psychology, Sociology and Biology. All students will study three mandatory topics as follows:

Health and well-being for child development

Understanding the equipment and nutritional needs of children from birth to five years

Understanding the development norms of a child from birth to five years

The first topic of study underpins all of the other learning in this qualification. Students will develop the essential knowledge and understanding in child development, covering reproduction, parental responsibility, antenatal care, birth, postnatal checks, postnatal provision, conditions for development, childhood illnesses and child safety. In the second topic of study, students will gain knowledge of the equipment needs of babies and young children and an understanding of the factors to be considered when choosing appropriate equipment to meet all of these needs. This topic will also cover nutrition and hygiene practices. In the third topic of study, students will gain an understanding of the development norms from birth to five years and the stages and benefits of play.

## **KS4 Food**

This GCSE course focuses on practical cooking skills to ensure students develop a thorough understanding of nutrition, food provenance and the working characteristics of food materials. At its heart, this qualification focuses on nurturing students' practical cookery skills to give them a strong understanding of nutrition.

Food preparation skills are integrated into five core topics:

Food, nutrition and health

Food science

Food safety

Food choice

Food provenance.

Upon completion of this course, students will be qualified to go on to further study, or embark on an apprenticeship or full time career in the catering or food industry.

### **How can I help support my child's learning in Technology?**

Encouraging your child to cook, sew and help with practical activities will be a huge help to them in developing their practical skills. It will also give them a wider experience of materials and processes to help them deepen their understanding. Discussing their design ideas with them will also help them to gain a better understanding of what they are doing and how it can be improved.

Understanding and predicting how good an idea could be and considering different ways to improve it is a key skill that children usually find very difficult. Software used in school includes

Starting Wednesday 14th September from 2.45 to 4pm we will be offering GCSE students the chance to extend the quality of their coursework, by attending regular P6 sessions in Design and Technology.

Useful websites

[www.technologystudent.com](http://www.technologystudent.com)

[www.bbc.co.uk/schools/gcsebitesize/design](http://www.bbc.co.uk/schools/gcsebitesize/design)

<http://www.design-technology.info>

<http://www.howstuffworks.com>