

KS4 Design and Technology curriculum overview

Current Design and Technology GCSE qualifications available are:

AQA GCSE Food Technology (until 2017)

AQA GCSE Resistant Materials (until 2017)

AQA GCSE Product Design (until 2017)

GCSE Design and Technology is designed to enable students to show their creativity through their designing and making skills. The courses are designed to enable pupils to move forward from Key Stage 3 Design and Technology onto GCSE in Key Stage 4. Designing and making are encouraged throughout the courses to develop independent thinking and communication skills in order to prepare candidates for taking higher level courses or for entering the world of work. The course has 2 main assessment elements, a controlled assessment project (60%) and a written examination (40%).

AQA GCSE Food Technology (Y10)

Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
<p>Introduce the course requirements and expectations.</p> <p>Exceedingly good cakes: topic to introduce pupils to cake making techniques and ingredients, through a variety of practical and theory activities.</p> <p>End of unit test: Examination style questions based on the exceedingly good cake topic</p>	<p>Food for the future: the aim of the topic is to look at modified ingredients in food technology and standard components in the food industry. A variety of practical's will be used to develop pupils' skills.</p> <p>End of unit test: Examination style questions based on the food for the future topic</p>	<p>Food for a healthy lifestyle: the aim of the topic is to look at food and nutrition. The topic is centred on the eatwell guide and every day nutrition. Pupils will be expected to begin developing their own dishes based around the principles of healthy eating</p> <p>End of unit test: Examination style questions based on the eatwell plate</p>	<p>Introduction to the controlled assessment</p> <p>Pupils will carryout primary and secondary research tasks and record these within their portfolio.</p> <p>Practical work will focus on the production of design ideas for their pupils' portfolio.</p> <p>Design ideas will begin to be written up.</p>	<p>Continuation of controlled assessment work:</p> <p>Research Design Ideas Evaluation and justification</p>	<p>Preparation for Y10 examination; looking at examination themes, questions and revision techniques.</p>
<p>Homework:</p> <p>Pupils will be expected to complete homework on a weekly basis. This may involve:</p> <ul style="list-style-type: none"> • The preparation of ingredients and recipes to use in practical lessons. • Continuation of theory work • Producing presentations/ideas to share in class • Revision studies for end of topic tests and examinations • Continuation of some controlled assessment work (within examination board guidelines) 			<p>Assessment:</p> <p>Pupils' practical skills will be assessed using the examination board criteria; verbal feedback is provided.</p> <p>Written feedback and assessment may take place in exercise books where pupils record notes and theoretical responses.</p> <p>Each topic requires pupils to complete an end of topic test knowledge and understanding. These questions are usually from legacy exam papers. They are marked using the examination criteria</p>		

AQA GCSE Food Technology (Y11)

Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
<p>Continuation of controlled assessment work:</p> <p>Research Design Ideas Evaluation and justification</p> <p>Introduction to development and final make section of the controlled assessment</p>	<p>Preparation for Y11 trial examination; looking at examination themes, questions and revision techniques.</p> <p>Final make carried out under examination conditions (2 hrs)</p>	<p>Continuation of controlled assessment work:</p> <p>Research Design Ideas Evaluation and justification Development Final make</p> <p>Controlled assessment submitted for assessment</p>	<p>Preparation for Y11 external examination; looking at questions and revision techniques.</p> <p>Pupils are issued with examination preparation sheets and revision is based around the theme</p>	<p>Preparation for Y11 external examination; looking at questions and revision techniques.</p>	<p>External examination</p>
<p>Homework:</p> <p>Pupils will be expected to complete homework on a weekly basis. This may involve:</p> <ul style="list-style-type: none"> • The preparation of ingredients and recipes to use in practical lessons. • Continuation of theory work. • Although pupils are completing the controlled assessment element of the course within class, there is the expectation that pupils should continue with revision towards their trial and external examinations. 			<p>Assessment:</p> <p>Pupils' practical skills and controlled assessment portfolio will be assessed using the examination board criteria.</p> <p>The trial examination will be marked using examination board mark schemes.</p>		

AQA GCSE Resistant Materials (Y10)

Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
<p>Introduce the GCSE Resistant Materials course, its requirements and expectations.</p> <p>Bi plane a focused practical task: Designed to give pupils a high level practical experience. Students learn a range of hand skills while developing knowledge and understanding that support making.</p> <p>Theory activities include learning about: workshop safety, timer and timber based materials. Introduction to CAD, using a software drawing package. Materials and methods of construction.</p>	<p>Bi plane a focused practical task continued: Students learn: a wider range of hand Skills, finishing techniques, processes, knowledge and understanding that support making.</p> <p>Theory activities include learning 3d drawing techniques.</p> <p>Introduction to CAM, using software to control CNC machinery.</p> <p>Introduction to product evaluation and product analysis</p> <p>End of unit test: Part A examination style questions based on the task that they have completed.</p>	<p>Introduction to the Design Process: The aim is to introduce students to all the requirements of the design process and look at how they are linked to underpin their controlled assessment coursework. The tasks are also designed to develop three dimensional drawing skills by hand and using computer.</p> <p>Pupils will be introduced to their design brief and are expected to begin developing their research skills.</p> <p>End of unit test: Part A Answering examination style questions based on the design process</p>	<p>Introduction to controlled assessment</p> <p>Pupils will carry out range of primary and secondary research tasks and summarising the Research section of their task.</p> <p>The task produces a specification that guides students to produce a range of Design Ideas that include factors such as evaluation and justification identifying analysing etc in their annotation.</p> <p>This coursework is recorded in their portfolio.</p>	<p>Continuation of controlled assessment</p> <p>The work will be used to lead students to focus on the production of design development for their portfolio. Their ideas will be developed as far as possible as the students ability will allow.</p> <p>This coursework is recorded in their portfolio.</p> <p>Preparation for Y10 examination by exploring possible examination themes and answering Part A style questions.</p>	<p>Preparation for Y10 examination; looking at Answering Part B examination style questions and revision techniques.</p> <p>Explore the feasibility of making a model of their product.</p> <p>Plan how to make and assemble their product.</p>
<p>Homework:</p> <p>Pupils will be expected to complete homework on a weekly basis. This may involve:</p> <ul style="list-style-type: none"> • The completion of worksheets that underpin practical lessons. • Continuation of unfinished theory work and practical work • Revision studies for end of topic tests and examinations • Continuation of some controlled assessment work (within examination board guidelines) 			<p>Assessment:</p> <p>Pupils' practical skills will be assessed using the examination board criteria; verbal feedback is provided.</p> <p>Written feedback and assessment may take place following the school assessment policy where pupils record notes and theoretical responses.</p> <p>Each main unit of work requires pupils to complete an end test of knowledge and understanding. Where appropriate they are marked using the GCSE examination criteria</p>		

AQA GCSE Resistant Materials (Y11)					
Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
<p>Continuation of controlled assessment:</p> <p>Students commence the practical element of their controlled assessment</p> <p>Measuring Marking out Cutting Drilling Component parts Assembling Modifying Joining Preparing Finishing</p>	<p>Continuation of controlled assessment:</p> <p>Students continue the practical element of their controlled assessment</p> <p>Preparation for Y11 trial examination; exploring Part A and Part B questions and revision techniques</p>	<p>Continuation of controlled assessment work:</p> <p>Testing and evaluation of the finished product.</p> <p>Controlled assessment checked and submitted for assessment</p>	<p>Preparation for Y11 external examination; exploring Part A and Part B questions and revision techniques.</p> <p>Pupils are issued with examination preparation sheets and revision is based around the theme</p>	<p>Preparation for Y11 external examination; exploring Part A and Part B questions and revision techniques.</p>	<p>External examination</p>
<p>Homework:</p> <p>Pupils will be expected to complete homework on a weekly basis. This may involve:</p> <ul style="list-style-type: none"> • The catching up of any missing controlled assessment course work. • Continuation of theory work. • Although pupils are completing the controlled assessment element of the course within class, there is the expectation that pupils should continue with revision towards their trial and external examinations. 			<p>Assessment:</p> <p>Pupils' practical skills and controlled assessment portfolio will be assessed using the examination board criteria.</p> <p>The trial examination will be marked using examination board mark schemes and used to guide revision for the external examination.</p>		

AQA GCSE Product Design (Y10)					
Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
<p>Introduce the GCSE Product Design course, its requirements and expectations.</p> <p>Drawing Skills: Students will enhance their 2D and 3D drawing skills to better present their ideas that will support the creative process for the course. They will also use CAD to a higher level to improve their accuracy.</p> <p>End of unit test: GCSE exam style questions based on a design theme.</p>	<p>3D Gadget mini-project: Students will learn how to set out a folder that shows their design process from investigating to evaluation with help from the teacher to improve their understanding of the possibilities of their ideas. Students will also be taught the principles of 3D printing and use this to produce their prototype.</p> <p>End of unit test: GCSE exam style questions based on a production theme.</p>	<p>3D Gadget mini-project: Students will continue with their project work by using the skills they have learnt in CAD to use CAM to produce a prototype of their design. They will use 2D Design to show a basic 3D image then Pro-Desktop to create the basis of a 3D printed object.</p> <p>End of unit test: GCSE exam style questions based on a manufacturing theme.</p>	<p>Laser Project: Students will learn the principles of laser cutting and layering to produce a 3D model and understand how they will use their skills to produce their project work.</p> <p>End of unit test: GCSE exam style questions based on an environment theme.</p>	<p>Introduction to Controlled Assessment: The work will be used to lead students to focus on the production of design development for their portfolio. Their ideas will be developed as far as possible as the student's ability will allow.</p> <p>This coursework is recorded in their portfolio.</p> <p>Preparation for Y10 examination by exploring possible examination themes and answering Part A style questions.</p>	<p>Continuation to Controlled Assessment and Trial exam revision.</p> <p>Explore the feasibility of making a model of their product.</p> <p>Plan how to make and assemble their product.</p>
<p>Homework:</p> <p>Students will be expected to complete homework on a weekly basis. This may involve:</p> <ul style="list-style-type: none"> Continuation of theory work Researching areas that will help their project develop Although pupils are completing the controlled assessment element of the course within class, there is the expectation that pupils should continue with revision towards their trial and external examinations. 			<p>Assessment:</p> <p>Student's practical skills will be assessed using the examination board criteria; verbal feedback is provided.</p> <p>Written feedback and assessment may take place following the school assessment policy where pupils record notes and theoretical responses.</p> <p>Each main unit of work requires pupils to complete an end test of knowledge and understanding. Where appropriate they are marked using the GCSE examination criteria</p>		

AQA GCSE Product Design (Y11)

Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
<p>Continuation of controlled assessment:</p> <p>Students commence the practical element of their controlled assessment</p> <p>Measuring Drawing work with 2D and 3D programmes Assembling components Modifying Finishing</p>	<p>Continuation of controlled assessment:</p> <p>Students continue the practical element of their controlled assessment</p> <p>Measuring Drawing work with 2D and 3D programmes Assembling components Modifying Finishing</p> <p>Preparation for Y11 trial examination; exploring Part A and Part B questions and revision techniques</p>	<p>Continuation of controlled assessment:</p> <p>Testing and evaluation of the finished product.</p> <p>Controlled assessment checked and submitted for assessment</p>	<p>Preparation for Y11 external examination; exploring Part A and Part B questions and revision techniques.</p> <p>Pupils are issued with examination preparation sheets and revision is based around the theme given by AQA.</p>	<p>Preparation for Y11 external examination; exploring Part A and Part B questions and revision techniques.</p>	<p>External examination</p>
<p>Homework:</p> <p>Students will be expected to complete homework on a weekly basis. This may involve:</p> <ul style="list-style-type: none"> • Continuation of theory work. • Although pupils are completing the controlled assessment element of the course within class, there is the expectation that pupils should continue with revision towards their trial and external examinations. 			<p>Assessment:</p> <p>Student's practical skills and controlled assessment portfolio will be assessed using the examination board criteria.</p> <p>The trial examination will be marked using examination board mark schemes.</p>		