

Subject: (Design and Technology)

KS2 Prior Knowledge

- Students should have an understanding of different groups of materials and the properties of these materials.
- Students should be familiar with using design to solve problems.
- Students should be familiar with selecting and using basic tools and equipment in order to realise design ideas.
- Students should be able to research and present information that will help them to solve problems or assist in generating their own design ideas.
- Students should be able to evaluate their work by identifying strengths and weaknesses in what they have designed and made, using this to suggest possible improvements.

Year 7	Year 8	Year 9	Year 10	Year 11
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Content

<ul style="list-style-type: none"> • What are timbers? • What is a design brief? • What is a design specification? • How do we present design ideas? • What are the health and safety rules for practical workshops? • What tools are used to mark out, cut and shape timbers? 	<ul style="list-style-type: none"> • What are the differences between softwoods and man-made boards? • Can I write my own design brief? • Can I write and justify my own design specification? • How do I show more creativity in my design ideas? • Can I produce more complex products and display a greater level of making accuracy? • How can I make accurate judgements about my work? 	<p><u>Papers and boards</u>: designing and modelling a shop front. CAD skills also taught through this project.</p> <p><u>Timber</u>: focussed practical task on Metals: designing and making a balancing figure</p> <p><u>Plastics / mini-NEA</u>: completion of a design folio in the research, iterative design, prototyping and evaluation of a headphone stand</p>	<p><u>Full NEA practice</u>: pupils are set 3 design contexts and complete a full-length NEA based upon these contexts.</p> <p><u>June 1st</u> :- 3 contexts are released by AQA. This is worth 50% of the final examination grade for this GCSE</p> <p>Textiles knowledge and understanding taught through the production of a miniature t-shirt.</p>	<ul style="list-style-type: none"> • NEA (non-examination assessment) based on one of three contexts set by AQA (50% of final grade). • Homework tasks alongside NEA focus on timbers and plastics (industrial processes rather than workshop-based skills) for Section B on the examination. • Intervention sessions for sections A, C & D of the NEA.
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Skills

<ul style="list-style-type: none"> • Design skills: uses for 2D and 3D drawing techniques. • Design skills: annotation of design ideas. • Design skills: application of colour using rendering/tonal shading. • Making skills: marking out, cutting, shaping and finishing timbers. • Evaluation skills: making judgements about their own work and the work of others. 	<ul style="list-style-type: none"> • Making skills: development of greater accuracy in making with timbers through the production of a comb joint. • Evaluation skills: using design specifications to make judgements about work quality. • Design skills: improved presentation of a wider range of ideas. • Evaluation skills: using surveys to find out other peoples opinions about their work. 	<ul style="list-style-type: none"> • <u>Improved CAD skills</u>: tools, functions features, advantages, disadvantages and applications. • <u>Timbers</u>: independent application of skills taught from years 7 and 8. • <u>Making skills</u>: increased accuracy in marking out, cutting, shaping and finishing of metals, plastics and papers & boards using appropriate tools and equipment. • <u>Design skills</u>: creating broader ranges of creative, well presented and annotated ideas. • <u>Analysis and evaluation skills</u>: being able to make critical judgements about their own work and the work of others. 	<p>Detailed understanding and ability to:</p> <ul style="list-style-type: none"> • Investigate design contexts, identify design opportunities and create design briefs. • Research relevant information to guide design ideas. • Write a justified design specification. • Present creative design ideas and develop these using an iterative process. • Independently mark out, cut, shape and finish materials using a range of appropriate tools and equipment. • Critically evaluate their own work and the work of others. 	<ul style="list-style-type: none"> • Application of all previous skills through independent completion of NEA. • Exam skills – extended writing ,questions and application of knowledge and understanding of industrial processes and designing skills from NEA. • Key skills of analysis, evaluation and sequential process descriptions, all building on knowledge and understanding from previous years.
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Assessment

- Assessment of design work.
- Assessment of practical outcome.
- End of topic test.

- End of topic test.
- Assessment of design folio (judgements made relating to design, make and evaluate).
- Homework quizzes in SMHW relating to the subject content taught.

- End of topic tests.
- Year 9 PPE.
- Assessment of CAD skills, design skills, making skills and evaluation skills throughout the projects taught (thus covering a range of materials for Section A of the GCSE examination).
- Key words / terms / materials knowledge also assessed through quizzes in SMHW.

- Year 10 PPEs.
- Assessment of practice NEA.
- Exam questions.
- Key words / terms / materials knowledge also assessed through quizzes in SMHW.
- Intervention topics individualised to each pupil.

- Year 11 PPEs.
- Exam questions.
- Key words / terms / materials knowledge also assessed through quizzes in SMHW.