Year 11 GCSE Revision - Resistant Materials

Week beginning	Topics for revision	Re-visit work	Suggested activities
			General revision: • Use symbols next to key process or materials to help jog your memory. • Recopy notes in colours • Use mind maps or spider diagrams on key topics. • Write facts and notes on index cards and stick everywhere! On the wall, fridge TV or even you bed. • Use colour-coded markers or highlighters to pick out key bits of information. • Put facts to your favourite tunes and change the lyrics of songs to things you need to remember. • Discuss information a with friend immediately after new learning to help it sink in – ring a friend or chat after class. • Study/do homework with friend(s) via telephone or get together in a group. • Repeat key phrases or thing you want to remember out loud lots of times to help it stick. • Record your self reading your revision guide and listen to the recording on your phone/ipod. • Use of different voices to study (like creating a script, or acting out a play) • Copy out key information over and over to make them neat and help you remember it. • Make notes during lesson as an aid to concentration. • Walk and talk – link in revision with exercising. • Move hands or feet for rhythm emphasis while studying • Make charts, grids, timelines, diagrams similar to visual learner strategies • Trace key words with finger, marker or you hand whilst reading Re-enact situations while studying. • Practice exam questions. • Practice drawing skills. • Physical activities linked to theory learning Past papers – drive/designtechnology/resistantmaterials /pastexampapers http://www.aqa.org.uk/subjects/design-and-technology/gcse/design-and-technology-resistant-materials-4560/past-papers-and-mark-schemes
5th February	Materials Woods-hard, soft, manufactured Metals-ferrous, non-ferrous, alloys	Recognise the working characteristics of the common forms of wood; know the difference between hardwoods and softwoods, and between natural timber and manufactured boards.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic.

	Plastic-thermoset, thermo	Recognise the working characteristics of the common forms of metals; understand the differences between ferrous and non-ferrous metals and how they are used; know that the properties of metals can be changed by heat treatments; know that metals can be combined to form alloys. Recognise the working characteristics of common forms of plastics; understand the difference between thermoplastics and thermosetting plastics and how this affects the way they are used. Understand that different materials can be combined to change their characteristics.	http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/materialsmaterialsrev1.shtml http://www.technologystudent.com/ an introduction to materials/vaneers/natural woods/manmade boards/metals/alloys/plastics Information on ndrive/reference/resistant materials/GCSE exam revision/powerpoint lesson 2 http://www.bbc.co.uk/education/clips/zkx4d2p watch class clip on an introduction to thermoplastics and thermo set.
12th February	Manufacturing processes Tools and equipment Components and fixings	Understand the selection and usage of appropriate tools and equipment, for metal, plastics, wood, smart materials and composites. Have knowledge of permanent and non-permanent methods of joining materials together. Should be familiar with the tools and equipment that are used for cutting, shaping, casting, moulding, forming and bending.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/materialcomponentadhesiverev5.shtml Information on ndrive/reference/resistant materials/GCSE exam revision/powerpoint lesson 2 http://www.technologystudent.com/ injection moulding part1 and 2/blow moulding/rotational moulding/rivits/welding http://www.bbc.co.uk/education/clips/zv8fb9q watch class clip on casting metals

19th February **HALF TERM**	Scale of production (Batch, Mass, One-off, JIT) Manufacturing Processes CAD/CAM	Understand how to select and specify appropriate materials, quantities, sizes, tolerances. Be able to produce a sequence of instructions that would allow a competent third party or machine to manufacture the product. Be able to identify critical points for quality control, and time scales in the manufacturing process; develop methods to aid accuracy and repetition in manufacture. Should be aware of and use as appropriate, manufacturing processes and techniques including CAD and CAM. Should have an industrial and commercial awareness and be familiar with the processes involved in manufacturing in quantity. Have knowledge of, marking out tools, equipment and processes including use of templates. Use measurement systems with accuracy and have an understanding of the need to work within tolerance. Understand the use of x, y, z co-ordinates in CAD and CAM systems.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. Information on n drive/reference/resistant materials/GCSE exam revision/powerpoint lesson 3 and 4 http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/processtechniquesrev2.shtml http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/processindpracrev1.shtml http://www.technologystudent.com/ batch/ continuous/one-off/ Tolerances/ quality control. Practice using the example manufacturing sheet on metal and plastic.
26th February	**PPE and risk assessments** **Safety signs and symbols** **Work shop tools and equipment** **Smart Materials: Names and types, working properties, uses.**	Should be able to recognise the properties, working characteristics and combinations of smart materials and nanomaterials. Should be able to recognise that safety of the individual is essential; take responsibility to ensure that hazards are minimised and the working environment is safe to use; Understand the health and safety regulations when working with tools, equipment, components and materials including the use of Personal Protective Equipment (PPE).	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. Information on n drive/reference/resistant materials/GCSE exam revision/powerpoint lesson 5 http://www.technologystudent.com/ smart materials/ nano materials/ PPE/ Health and safety http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/designhealthrev1.shtml
5th March	Joints Marking out/ Jigs	Understand the incorporation of quality checks during the making of a product and	Concept map notes from lesson. Create revision cards on topic.

	Fixtures and fittings	quality control procedures using devices to ensure the consistent production of products.	Create q & a cards on topic. Information on n drive/reference/resistant materials/GCSE exam revision/powerpoint lesson 6 http://www.technologystudent.com/ screws and glues/ joints/manufacturing products using templates. http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/designanalysisevaluationrev7.shtml **The prep sheet issued 1st March:** **Research the theme, produce a mood board and mind map ideas.**
12th March	Ergonomics and anthropometric data	Understand how to consider ergonomics and anthropometric data in relation to products that have been designed and manufactured.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. http://www.technologystudent.com/ Information on n drive/reference/resistant materials/GCSE exam revision/power point lesson 7
19th March	**Sustainability** **6 Rs**	Understand the sustainability and environmental issues associated with the designing and making of products; 6 Rs: repair, reduce, recycle, reuse, rethink, refuse.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/designsocialrev6.shtml environmental issues/ 6rs and disposal http://www.technologystudent.com/ product life cycle/ sustainability/ 6 r s/ what is a sustainably forest/ Information on n drive/reference/resistant materials/GCSE exam revision/power point lesson 8 http://www.bbc.co.uk/education/clips/z24pyrd watch the clip on how smart materials are used in renewable energy

26th March	**Maintenance** **Basic electrical systems** **Basic mechanisms**	Understand the legal requirements concerning consumer rights and codes of practice relating to safety into account when designing products. Be aware of the financial and human costs involved in designing and making products. Have knowledge of basic mechanisms and electrical systems.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. Information on ndrive/reference/textiles Information on n drive/reference/resistant materials/GCSE exam revision/power point lesson 9 http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/designsocialrev3.shtml customer rights and legislation http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/designsocialrev7.shtml designing for maintenance http://www.technologystudent.com/ maintenance of products drills/kettles/cars maintenance checks http://www.bbc.co.uk/education/clips/zn9nvcw watch class clip on designing and manufacturing motor bikes
2nd April	**Product analysis** **Technology push and market pull**	Understand how to use product analysis techniques to make critical judgements about the design and manufacture of resistant materials products produced in school or commercially Take into consideration form, function, shape, colour, materials, texture, component parts, decoration and aesthetic appeal to evaluate suitability for purpose; Consider designer, manufacturer and user in the development of products for industrial manufacture.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/designsocialrev1.shtml technology push and market pull/ what is market pull http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/designanalysisevaluationrev1.shtml product analysis and design. http://www.technologystudent.com/ what is technology push market pull Information on n drive/reference/resistant materials/GCSE exam revision/power point lesson 10
9th April **<u>EASTER</u>**			Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. Information on ndrive/reference/textiles **Complete the revision booklet, and practice drawing the manufacturing questions from the examples give, practical a wood/metal and plastic product.**

16th April **<u>EASTER</u>**			Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. Information on ndrive/reference/textiles **Complete the revision booklet, and practice drawing the manufacturing questions from the examples give, practical a wood/metal and plastic product.**
23th April	Designing	Be able to demonstrate a range of 2D/3D techniques to communicate ideas. To generate a wide variety of ideas taking into consideration different possibilities of materials and processes. Also to look to be creative, innovative and adventurous in these designs. Understand how to generate a product specification influenced by analysis of initial research and how the criteria of the design specification influence the quality of designing.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. Information on n drive/reference/resistant materials/GCSE exam revision/power point lesson 11 **Use the examples given and practice drawing 5 designs linked to the prep sheet.** **Design and write a specification for your two designs for the preparation sheet for the exam from the prep sheet issued**
30th April	Development	Clarify the final design through decisions made through: • consideration and selection materials • consideration and selection of constructional details formal/CAD drawings. Use simple tests to check the effectiveness of designs and evaluate against the specification criteria.	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. Information on n drive/reference/resistant materials/GCSE exam revision/power point lesson 12 **Use the examples given and developing one of your 5 designs linking to the prep sheet, developed designs must be annotated.**
7th May		Past paper revision	aqa –resistant materials-past-papers and mark schemes Information on n drive/reference/resistant materials/GCSE exam revision/past papers
14th May		Past paper revision	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic.

			aqa –resistant materials-past-papers and mark schemes Information on n drive/reference/resistant materials/GCSE exam revision/past papers
21st May		Past paper revision	aqa –resistant materials-past-papers and mark schemes Information on n drive/reference/resistant materials/GCSE exam revision/past papers
28th May		Past paper revision	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. aqa –resistant materials-past-papers and mark schemes Information on n drive/reference/resistant materials/GCSE exam revision/past papers
4th June		Past paper revision	aqa –resistant materials-past-papers and mark schemes Information on n drive/reference/resistant materials/GCSE exam revision/past papers
11th June		Past paper revision	Concept map notes from lesson. Create revision cards on topic. Create q & a cards on topic. aqa –resistant materials-past-papers and mark schemes Information on n drive/reference/resistant materials/GCSE exam revision/past papers
14th June	**Exam 9.00 am**		