Year 11 GCSE Mock Exam Revision - Resistant Materials

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
Materials Woods-hard, soft, manufactured Metals-ferrous, non-ferrous, alloys Plastic-thermoset, thermo	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. http://www.bbc.co.uk/schools/gcsebitesize/design/resistantmaterials/materialsmaterialsrev1.shtml

	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.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.
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

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.
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
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.**
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
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