

# How to Revise Week

Question-a-day and 20 minute Revision tasks  
March & April 2023

Subject:  
Engineering



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	NOTES:
<p>27th March</p> <p>What is the formula for working out Mechanical Advantage?</p>	<p>28th March</p> <p>Draw an example of an <b>orthographic projection</b>.</p>	<p>29th March</p> <p>What do the following terms mean? <b>Ductility, Malleability, Hardness and Toughness.</b></p>	<p>30th March</p> <p>Draw the circuit symbols for: <b>Cell, Resistor, LED, Transistor, Capacitor, Diode, LDR, and Buzzer.</b></p>	<p>31st March</p> <p>What is the formula for calculating <b>Force</b>? And what is force usually measured in?</p>	<p>1st April</p> <p>How would you cut, drill and fold a piece of <b>Aluminium</b>?</p> <p>What <b>tools/equipment</b> would you need?</p>	<p>2nd April</p> <p>Using simple diagrams and notes explain the <b>Milling</b> process using a slot drill and end mill.</p>	<p>TRY TO USE A MIXTURE OF DIFFERENT REVISION TECHNIQUES SUCH AS THE EXAMPLES BELOW:</p>
<p>3rd April</p> <p>Can you describe what a <b>Relay</b> is and why it is used to control an output in an electronic circuit?</p>	<p>4th April</p> <p>Modern bicycles are being made from <b>composite materials</b>, what material is it? and why is this material used?</p>	<p>5th April</p> <p>A cable has stretched by 2mm and its original length was 100mm. What is the <b>Strain</b> being placed on the cable?</p>	<p>6th April</p> <p>If a circuit has a resistance of 10KΩ and a 12V power supply, what is the <b>current</b> flowing through the circuit?</p>	<p>7th April</p> <p>List the advantages and disadvantages of using <b>CAD</b>.</p>	<p>8th April</p> <p>Draw a <b>Cam</b> and a <b>Crank and Slider</b>.</p> <p>What motion is the input? What motion is the output?</p>	<p>9th April</p> <p>Define the term <b>Non-renewable</b>? List 2 Non-renewable sources. What are the disadvantages to using them?</p>	
<p>10th April</p> <p>What are the benefits of using a <b>CAD</b> program to <b>model/test</b> a product before manufacture?</p>	<p>11th April</p> <p>Name three <b>Joining/Fastening</b> methods that can be used to join two pieces of <b>metal</b> together.</p>	<p>12th April</p> <p>What three reasons are there for applying a <b>surface finish</b> to a piece of metal.</p>	<p>13th April</p> <p>Explain the difference between <b>AC &amp; DC voltage</b>.</p> <p>Draw a <b>graph</b> to show each one.</p>	<p>14th April</p> <p>Explain how <b>New and Emerging Technologies</b> can have a positive or negative effect on <b>production</b>.</p>	<p>15th April</p> <p>What are the 3 formulas used in <b>trigonometry</b>?</p>	<p>16th April</p> <p>Can you explain how we would <b>Hard Solder (Brazing)</b> two piece of metal together?</p>	
<p>20 minute revision</p> <p>Task 1: Material Properties</p>	<p>20 minute revision</p> <p>Task 2: Joining and Assembly</p>	<p>20 minute revision</p> <p>Task 3: Dimensions</p>	<p>20 minute revision</p> <p>Task 4: Engineering Materials</p>	<p>20 minute revision</p> <p>Task 5: CAD</p>			
							<p><b>ENGINEERING MATERIALS</b> PAGES 1 - 16</p> <p><b>ENGINEERING MANUFACTURING PROCESSES</b> PAGES 17 - 37</p> <p><b>SYSTEMS</b> PAGES 38 - 54</p> <p><b>TESTING AND EVALUATION</b> PAGES 55 - 65</p> <p><b>THE IMPACT OF MODERN TECHNOLOGIES</b> PAGES 66 - 70</p>

**Subject:  
Engineering**

**Exam Board:  
AQA**

**Mock exam Paper:  
GCSE Engineering Unit 1  
2 Hours**

## Topic to Revise:

### 3.1 Engineering Materials

3.1.1 Material Properties

3.1.1.3 Composites

3.1.3 Factors influencing design of solutions – Fossil fuels

### 3.2 Engineering Manufacturing Processes

3.2.2 Material Removal - Milling

3.2.3 Shaping

3.2.4 Casting and Moulding

3.2.5 Joining and Assembly – Hard Soldering

3.2.7 Surface Finishing – Metal Finishes

### 3.3 Systems

3.3.1 Mechanical Systems – Cams, Crank & Slider

3.3.2 Electrical Systems – Flowcharts, AC/DC Power

3.3.3 Electronic Systems – Resistors/Resistance, Relays

### 3.4 Testing and Evaluation

3.4.1 Modelling and Calculating – Graphs, Cost, Power, Stress, Strain, Young's Modulus, Trigonometry, Mechanical Advantage

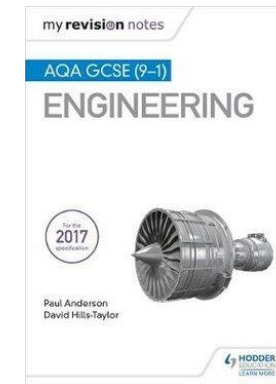
### 3.5 Impact of Modern Technologies

CAM

### 3.6 Practical engineering skills

CAD, Flowcharts, Isometric drawing, Orthographic projection, Health & Safety hazards, PPE (Personal Protective Equipment)

If you have a revision guide see below:



**ENGINEERING MATERIALS**  
PAGES 1 - 16

**ENGINEERING MANUFACTURING PROCESSES**  
PAGES 17 - 37

**SYSTEMS**  
PAGES 38 - 54

**TESTING AND EVALUATION**  
PAGES 55 - 65

**THE IMPACT OF MODERN TECHNOLOGIES**  
PAGES 66 - 70