How to Revise Week

Question-a-day and 20 minute Revision tasks
March & April 2025

Subject:

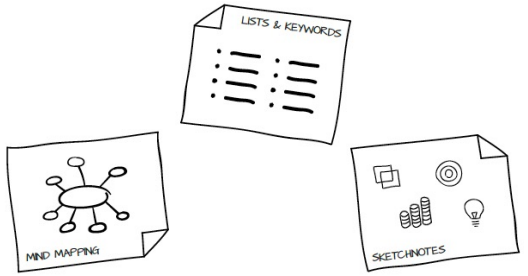
Engineering

The HENRY BEAUFORT School

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
24th March What is the formula for working out **Mechanical Advantage**?	**25th March** Draw an example of an **orthographic projection**.	**26th March** What do the following terms mean? **Ductility, Malleability, Hardness** and **Toughness.**	**27th March** Draw the circuit symbols for: **Cell, Resistor, LED, Transistor, Capacitor, Diode, LDR,** and **Buzzer.**	**28th March** What is the formula for calculating **Force**? And what is force usually measured in?	**29th March** How would you cut, drill and fold a piece of **Aluminium**? What **tools/equipment** would you need?	**20th March** Using simple diagrams and notes explain the **Milling** process using a **slot drill** and **end mill.**
31st March Can you describe what a **Relay** is and why it is used to control an output in an electronic circuit?	**1st April** Modern **bicycles** are being made from **composite** materials, what material is it? and why is this material used?	**2nd April** A cable has stretched by 2mm and its original length was 100mm. What is the **Strain** being placed on the cable?	**3rd April** If a circuit has a resistance of 10KΩ and a 12V power supply, what is the **current** flowing through the circuit?	**4th April** List the advantages and disadvantages of using **CAD**.	**5th April** Draw a **Cam** and a **Crank and Slider**. What motion is the input? What motion is the output?	**6th April** Define the term **Non-renewable**? List 2 Non-renewable sources. What are the disadvantages to using them?
7th April What are the benefits of using a **CAD** program to **model/test** a product before manufacture?	**8th April** Name three **Joining/Fastening** methods that can be used to join two pieces of **metal** together.	**9th April** What three reasons are there for applying a **surface finish** to a piece of metal.	**10th April** Explain the difference between **AC & DC voltage**. Draw a **graph** to show each one.	**11th April** Explain how **New and Emerging Technologies** can have a positive or negative effect on **production**.	**12th April** What are the 3 formulas used in **trigonometry**?	**13th April** Can you explain how we would **Hard Solder (Brazing)** two piece of metal together?
20 minute revision **Task 1: Material Properties**	**20 minute revision** **Task 2: Joining and Assembly**	**20 minute revision** **Task 3: Dimensions**	**20 minute revision** **Task 4: Engineering Materials**	**20 minute revision** **Task 5: CAD**		

NOTES:

TRY TO USE A MIXTURE OF DIFFERENT REVISION TECHNIQUES SUCH AS THE EXAMPLES 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

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: