

AQA Design & Technology (8552)

Easter Revision Guide & Task Booklet

28th March – 12th April

This Easter revision guide is structured to help you consistently prepare for your final 2-hour written exam. By completing one short task each day, you will cover the essential topics across Sections A, B, and C of the specification without feeling overwhelmed.

Each task is designed to take no more than 20 minutes. Keep a notebook or a folder specifically for these responses, ensuring you practise your exam technique and use correct technical terminology.

Revision Tracking Schedule

Use this table to track your progress over the two-week Easter break. Tick off each day once the task is completely finished.

Date	Topic	Exam Focus	Completed
28th March	New and Emerging Technologies	Section A	<input type="checkbox"/>
29th March	Energy Generation and Storage	Section A	<input type="checkbox"/>
30th March	Smart and Modern Materials	Section A	<input type="checkbox"/>
31st March	Mechanical Devices	Section A	<input type="checkbox"/>
1st April	Forces and Stresses	Section B	<input type="checkbox"/>
2nd April	Ecological and Social Footprint	Section B	<input type="checkbox"/>
3rd April	Scales of Production	Section B	<input type="checkbox"/>
4th April	Material Properties and Selection	Section B	<input type="checkbox"/>
5th April	Surface Treatments and Finishes	Section B	<input type="checkbox"/>
6th April	Investigating User Needs	Section C	<input type="checkbox"/>
7th April	The Work of Others	Section C	<input type="checkbox"/>
8th April	Design Strategies	Section C	<input type="checkbox"/>
9th April	Prototyping and Development	Section C	<input type="checkbox"/>
10th April	Tolerances and Allowances	Section C	<input type="checkbox"/>
11th April	Quality Control and Assurance	Section C	<input type="checkbox"/>
12th April	Product Evaluation	Section C	<input type="checkbox"/>

Daily Revision Tasks

Day 1: 28th March - New and Emerging Technologies

Focus: Section A

Explain the term 'planned obsolescence'. Write a 6-mark response discussing the ethical and environmental impacts of designing products with a limited lifespan. Give at least one specific product example (e.g., smartphones or fast fashion).

Day 2: 29th March - Energy Generation and Storage

Focus: Section A

Create a comparison table for **two** renewable energy sources (e.g., wind, solar) and **two** non-renewable energy sources (e.g., coal, nuclear). For each, list one major advantage and one major disadvantage regarding their environmental impact and reliability.

Day 3: 30th March - Smart and Modern Materials

Focus: Section A

Define what makes a material a 'smart material'. Select two of the following materials: *Thermochromic pigment*, *Shape Memory Alloy (Nitinol)*, *Photochromic pigment*, or *Poly-morph*. For your two chosen materials, write down their specific property changes and suggest one practical product application for each.

Day 4: 31st March - Mechanical Devices

Focus: Section A

Mechanics often rely on levers to create a mechanical advantage. Sketch the three different classes of levers (Class 1, Class 2, and Class 3). Clearly label the **Load**, **Effort**, and **Fulcrum (pivot)** on each sketch, and provide a real-world example of each (e.g., scissors, wheelbarrow, tweezers).

Day 5: 1st April - Forces and Stresses

Focus: Section B

Products must withstand various physical forces. Write a definition for each of the five main forces: **Tension**, **Compression**, **Torsion**, **Bending**, and **Shear**. Next to each definition, identify a product or structural component that regularly experiences this force.

Day 6: 2nd April - Ecological and Social Footprint

Focus: Section B

Write a short paragraph explaining the 'Six Rs' of sustainability (Rethink, Refuse, Reduce, Reuse, Repair, Recycle). Choose an everyday product, such as a plastic water bottle or a cardboard delivery box, and explain how a designer could apply at least three of the 'Rs' to improve its environmental footprint.

Day 7: 3rd April - Scales of Production

Focus: Section B

Differentiate between *Batch Production* and *Mass Production*. Write down three characteristics of each scale. Then, explain why jigs, templates, and moulds are essential when moving from bespoke (one-off) production to batch production.

Day 8: 4th April - Material Properties and Selection

Focus: Section B

You are designing a seating unit for a primary school playground. Choose a specific material from one of the core categories (e.g., a specific polymer like HDPE, or a metal like galvanised steel). Write an 8-mark justification explaining why your chosen material is suitable, discussing its physical properties, working properties, and durability outdoors.

Day 9: 5th April - Surface Treatments and Finishes

Focus: Section B

Surface finishes are applied for two primary reasons: aesthetics and protection. Provide one specific surface finish used for **timber** (e.g., varnish, oil) and one used for **metal** (e.g., dip coating, powder coating). Explain the step-by-step process of applying one of these finishes.

Day 10: 6th April - Investigating User Needs

Focus: Section C

Section C heavily focuses on data. Define *anthropometrics* and *ergonomics*. Imagine you are designing a handheld game controller. List three specific anthropometric measurements you would need to gather from your target audience to ensure the product is ergonomic.

Day 11: 7th April - The Work of Others

Focus: Section C

Designers often draw inspiration from existing companies or iconic designers (e.g., Dyson, Apple, Alessi, Harry Beck). Choose one iconic designer or brand. Write down three key features that define their signature design style, and explain how their work has influenced modern product design.

Day 12: 8th April - Design Strategies

Focus: Section C

Spend 15 minutes practising your communication skills. Sketch a simple everyday object (like a computer mouse, a mug, or a torch) using **isometric projection** (3D sketching on a 30-degree angle). Add basic shading to indicate a light source and use thick/thin line techniques to make the design pop off the page.

Day 13: 9th April - Prototyping and Development

Focus: Section C

Explain the purpose of creating a block model or a rapid prototype (e.g., 3D printing) before manufacturing a final product. List three ways a physical prototype can help a designer identify flaws that a 2D CAD drawing might miss.

Day 14: 10th April - Tolerances and Allowances

Focus: Section C

In manufacturing, what is meant by the term 'tolerance'? Write a brief explanation of why working to strict tolerances is vital when manufacturing parts that must assemble together (e.g., flat-pack furniture).

Day 15: 11th April - Quality Control and Assurance

Focus: Section C

Distinguish between Quality Assurance (QA) and Quality Control (QC). Write a brief definition for both. Then, list three specific QC checks that could be carried out during the manufacture of a wooden storage box to ensure it meets the design specification.

Day 16: 12th April - Product Evaluation

Focus: Section C

Using the acronym **ACCESS FM** (Aesthetics, Cost, Customer, Environment, Size, Safety, Function, Material), write a brief evaluation of the smartphone or computer you are using right now. Write one bullet point for each letter of the acronym, critically analysing the design.