Year 11 Summer DT units: Revision Guidance

Circulation	Year 11 Students 11d/dt1 & 11b/dt1
Title	Y11 Revision Guidance for Design and Technology
Purpose	To provide revision information for summer Examinations

***You will sit two 1* Paper worth (50%):** 2-hour written paper divided into 3 sections A, B and C.
Below are links to the specification.

- **Section A:** Core technical principles (20 marks, multiple choice). GCSE Design and Technology 8552 | Specification | Subject Content | Core Technical Principles | AQA
- **Section B:** Specialist technical principles (30 marks). GCSE Design and Technology 8552 | Specification | Subject Content | Specialist Technical Principles | AQA
- **Section C:** Designing and making principles (50 marks). GCSE Design and Technology 8552 | Specification | Subject Content | Designing And Making Principles | AQA

Revision Units and Key Topics

- **Unit 1: New and Emerging Technologies:** Impact on industry, environment, and culture (automation, enterprise).
- **Unit 2: Energy Generation and Storage:** Renewable/non-renewable sources.
- **Unit 3: Modern, Smart, and Composite Materials:** Shape memory alloys, photochromic materials.
- **Unit 4: Systems Approach:** Mechanisms and electronics.
- **Unit 5: Materials and Working Properties:** Papers/boards, timbers, metals, polymers, textiles.
- **Unit 6: Designing Principles:** Design briefs, client needs, and the work of other designers.
- **Unit 7: Making Principles:** Tolerances, tools, and industrial efficiency.

Core Technical Principles

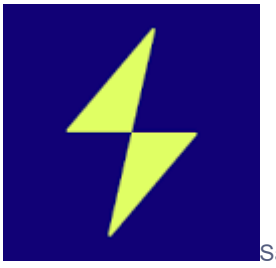
- ☑ New & emerging technologies
- ☑ Energy generation & storage
- ☑ Modern & smart materials
- ☑ Systems approach
- ☑ Mechanical devices
- ☑ Material categories & properties

Specialist Technical Principles

- [x] Material origins & classifications
- [x] Material properties
- [x] Forming/joining/finishing processes
- [x] Tools, machines & equipment
- [x] Production methods
- [x] Environmental & ethical factors
- [x] Quality control

Designing & Making Principles

- [x] Design strategies
- [x] Communication & modelling
- [x] Designer influences
- [x] Selecting materials & components
- [x] Manufacturing methods
- [x] Tolerances & accuracy
- [x] Evaluation & testing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Topics to revise:

Core Technical Principles (3.1)

You must know the broad technical understanding that applies across all material areas.

New and emerging technologies

(Industry, enterprise, sustainability, people, culture, society, environment, production techniques and systems). [ecclesbour...ire.sch.uk]

Energy generation and storage

Developments in modern and smart materials

Systems approach to designing

(Input, process, output, mechanical devices)

Materials and their properties

(Papers/boards, timber, metals/alloys, polymers, textiles)

Tools, equipment and processes (overview)

Specialist Technical Principles (3.2)

Students study one material area in depth, but should still know general concepts.

General topics to revise:

Forces and stresses

Improving functionality

Ecological and social footprint

Scales of production

Sources and origins of materials

Material properties and characteristics

Stock forms, types and sizes

Specialist tools, equipment and processes

Joining, forming, bending, casting, binding methods

Quality control / quality assurance

(Your specialist area—e.g., Timber, Metals, Papers, Textiles or Polymers—should be revised using the detailed content you covered in class.)

Designing and Making Principles (3.3)

This section prepares you for both the exam and the NEA.

Topics to revise:

Understanding design contexts

Identifying and investigating problems

The work of past and present designers

Using design strategies

(Iterative design, user-centred design, collaboration)

Design communication techniques

(Sketching, modelling, CAD)

Materials selection and justification

Tools and manufacturing techniques

Planning for manufacture

Tolerances and accuracy

Evaluating and testing outcomes

Considering sustainability and ethics

Maths & Science Links (Appendix 1 of specification)

Useful for exam questions requiring calculations or scientific understanding:

Mathematical applications (area, volume, percentages, ratios)

Science of materials, energy, forces, electronics

Engineering & Technology Flashcards

Revision Resources

- **AQA Past Papers:** Essential for understanding command words, notes AQA.
- **Key Revision Areas:** Focus on materials, sustainability, and health and safety.
- **Topics:** Review materials like papers, timbers, metals, and textiles. (See all units above with spec LINKS!)

You must answer all questions in the paper.

You will need a black pen, pencil, ruler and a calculator for your exam.

Further detail and revision materials can be found here:

BBC BITESIZE

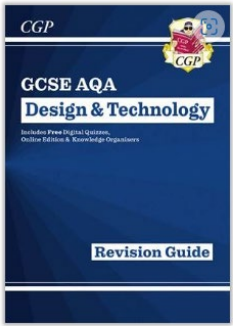
- GCSE

Design and Technology – AQA GCSE Design and Technology - AQA - BBC Bitesize

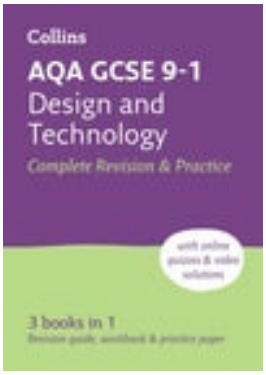
Easy-to-understand homework and revision materials for your GCSE Design and Technology AQA '9-1' studies and exams

gcsepod education on demand

GCSEPod



New GCSE Design & Technology AQA Revision Guide (w/ Online Edition, Quizzes & Knowledge Organisers) | CGP Books



Collins GCSE Grade 9-1 Revision