

**What to revise:**

Revise key areas; Technology in manufacturing, CAD/CAM, sustainability, society, and power.

- Technology in Manufacturing.
- Ways of Manufacturing e.g. FMS, Lean, JIT.
- Production Systems – CAD / CAM.
- Product Sustainability e.g. life cycle and planned obsolescence.
- Social Issues e.g. market pull and technology push.
- 6 R's and environment.
- Powering Systems e.g. fossil fuels, nuclear power and renewable energy.

**CORE KNOWLEDGE Top Tips**

**Section A** of your exam will be multiple choice questions, worth one mark each, and short answer questions. Multiple choice questions have one correct answer and three incorrect answers. Only pick one answer.

Read the questions carefully and underline any command words.

Always have a go, multiple choice answers mean you have a great chance of guessing it right even if you're not 100% sure.

This section is worth **20 / 100** marks, you should spend about 20 minutes on this section.

**Where to access revision material:**

GCSE AQA Design and Technology (CGP) Pages 2 – 13.

The Pocket Sized Revision Guide (Daydream Education) Pages 6 – 15.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/zn4bcj6/revision/1>  
<https://www.bbc.com/bitesize/guides/zf8ck2p/revision/1>



Technology Student resources and flash cards:

[http://www.technologystudent.com/despro\\_flsh/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_flsh/NEW_GCSE3.html)  
[http://www.technologystudent.com/despro\\_flsh/all\\_revcards1.html](http://www.technologystudent.com/despro_flsh/all_revcards1.html)

**Example exam questions:**

Extra revision questions on pages 14–17 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

Which one of the following is a production method based on replacing stock as it is needed?

- A Computer Aided Manufacture
- B Flexible Manufacturing
- C Integrated Manufacture
- D Just in Time Manufacturing

[1 mark]

Name a non-renewable energy source.

[1 mark]

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**What to revise:**

Revise all core material areas, remember this is the basics of all materials areas; not in-depth. You will have covered most of this at KS3.

- Properties of materials.
- Paper and board.
- Timber; softwoods and hardwoods.
- Metals; ferrous, non-ferrous and alloys.
- Polymers; thermoforming and thermosetting.
- Textiles; Natural and synthetic.
- Manufactured boards.
- Smart, modern and new materials

**CORE KNOWLEDGE Top Tips**

**Section A** of your exam will be multiple choice questions, worth one mark each, and short answer questions. Multiple choice questions have one correct answer and three incorrect answers. Only pick one answer.

Read the questions carefully and underline any command words.

Always have a go, multiple choice answers mean you have a great chance of guessing it right even if you're not 100% sure.

This section is worth **20 / 100** marks, you should spend about 20 minutes on this section.

**Where to access revision material:**

GCSE AQA Design and Technology (CGP) Pages 18 – 27.

The Pocket Sized Revision Guide (Daydream Education) Pages 16 – 17, 28 – 37.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/zjgyb82/revision/1>  
<https://www.bbc.com/bitesize/guides/zfq8jty/revision/1>



Technology Student:

[http://www.technologystudent.com/despro\\_fish/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_fish/NEW_GCSE3.html)  
[http://www.technologystudent.com/despro\\_fish/all\\_revcards1.html](http://www.technologystudent.com/despro_fish/all_revcards1.html)

**Example exam questions:**

Extra revision questions on pages 28 – 29 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

Which **one** of the following best describes a materials ability to be shaped or flattened into a thin sheet without cracking, tearing or snapping? [1 mark]

- ◇ Brittleness
- ◇ Hardness
- ◇ Malleability
- ◇ Toughness

Which **one** of the following fibres can be made into an entirely natural textile? [1 mark]

- ◇ Elastane
- ◇ Polyamide
- ◇ Polyester
- ◇ Wool

Which **one** of the following is an alloy? [1 mark]

- ◇ Aluminium
- ◇ Brass
- ◇ Copper
- ◇ Zinc

**What to revise:**

Revise electronic and mechanical systems.

Electronic systems:

- Input devices.
- Process devices.
- Decision makers – microcontrollers.
- Output devices.

Mechanical systems:

- Mechanisms.
- Gears.
- Cams and followers.
- Pulleys and belts.
- Levers and linkages.
- **Velocity & gear ratios - MATHS**

**CORE KNOWLEDGE Top Tips**

**Section A** of your exam will be multiple choice questions, worth one mark each, and short answer questions. Multiple choice questions have one correct answer and three incorrect answers. Only pick one answer.

Read the questions carefully and underline any command words.

Always have a go, multiple choice answers mean you have a great chance of guessing it right even if you're not 100% sure.

This section is worth **20 / 100** marks, you should spend about 20 minutes on this section.

**Where to access revision material:**

GCSE AQA Design and Technology (CGP) Pages 30 – 29.

The Pocket Sized Revision Guide (Daydream Education) Pages 18 – 27.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/z6kr97h/revision/1>  
<https://www.bbc.com/bitesize/guides/zbt26yc/revision/1>



Technology Student:

[http://www.technologystudent.com/despro\\_fish/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_fish/NEW_GCSE3.html)  
[http://www.technologystudent.com/despro\\_fish/all\\_revcards1.html](http://www.technologystudent.com/despro_fish/all_revcards1.html)

**Example exam questions:**

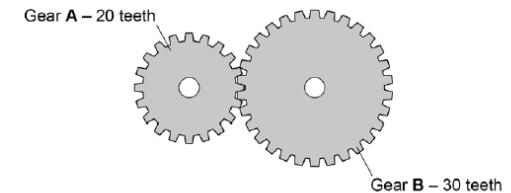
Extra revision questions on pages 40 – 42 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

If gear A rotates **three** times, how many times would gear B rotate?

[1 mark]



- A One rotation
- B Two rotations
- C Three rotations
- D Four rotations

**What to revise:**

Revise material selection, forces and stresses, scales of production and quality control.

- Selecting materials.
- Forces and stresses.
- Scales of production.
- Quality control, tolerance and consistency.

**SPECIALIST KNOWLEDGE Top Tips**

**Section B** of your exam gives you a choice of material area. It consists of a few short answer questions and one extended response question, which is worth more marks.

**Where questions offer a choice on what to write about – choose the material area that you have studied.**

Read the questions carefully and underline any command words.

This section is worth **30 / 100** marks, you should spend approximately 40 minutes on this section of the exam paper.

**Example exam questions:**

Revision questions can be found on pages 51 - 52 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

**Where to access revision material:**

GCSE AQA Design and Technology (CGP) Pages 43 – 50.

The Pocket Sized Revision Guide (Daydream Education) Pages 38 – 41, 44 – 45, 100 – 101.

BBC Bitesize:

**Paper and Boards:** <https://www.bbc.com/bitesize/guides/znq8jty/revision/1>

**Timber:** <https://www.bbc.com/bitesize/guides/zkvn4y4i/revision/1>

**Textiles:** <https://www.bbc.com/bitesize/guides/zjc3rwx/revision/1>

**Electronic & mechanical** <https://www.bbc.com/bitesize/guides/zjc3rwx/revision/1>





Technology Student:

[http://www.technologystudent.com/despro\\_fish/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_fish/NEW_GCSE3.html)

[http://www.technologystudent.com/despro\\_fish/all\\_revcards1.html](http://www.technologystudent.com/despro_fish/all_revcards1.html)



1. Choose **one** product in **Figure 1** and describe **two** features that make it suitable for one off production.

					
Tailored suit	Wedding ring	Fibreglass sculpture	Wooden bureau	Architectural model	Personalised wheelchair

Name of chosen product: \_\_\_\_\_

**What to revise:**

Revise production aids and how materials are produced.

- Production aids.
- Production of materials.
- Sources and Origins of materials.

**SPECIALIST KNOWLEDGE Top Tips**

**Section B** of your exam gives you a choice of material area. It consists of a few short answer questions and one extended response question, which is worth more marks.

**Where questions offer a choice on what to write about – choose the material area that you have studied.**

Read the questions carefully and underline any command words.

This section is worth **30 / 100** marks, you should spend approximately 40 minutes on this section of the exam paper.

**Example exam questions:**

Revision questions can be found on pages 59 – 61 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

**Where to access revision material:**

GCSE AQA Design and Technology (CGP) Pages 53 – 58.

The Pocket Sized Revision Guide (Daydream Education) Pages 99.

BBC Bitesize:

**Paper and Boards:** <https://www.bbc.com/bitesize/guides/znq8jty/revision/1>

**Timber:** <https://www.bbc.com/bitesize/guides/zkvny4j/revision/1>

**Textiles:** <https://www.bbc.com/bitesize/guides/zjc3rwx/revision/1>

**Electronic & mechanical** <https://www.bbc.com/bitesize/guides/zjc3rwx/revision/1>



Technology Student:

[http://www.technologystudent.com/despro\\_f1sh/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_f1sh/NEW_GCSE3.html)

[http://www.technologystudent.com/despro\\_f1sh/all\\_revcards1.html](http://www.technologystudent.com/despro_f1sh/all_revcards1.html)



Circle **one** of the stock forms listed. Name **one** of the raw materials it is made from.

[1 mark]

Acrylic rod	Corrugated card	Aluminium sheet	Wool yarn	MDF board
-------------	-----------------	-----------------	-----------	-----------

Raw material \_\_\_\_\_

**What to revise:**

- Properties of materials.
- Standard components.
- Working with paper and board.
- Printing techniques:
  - Lithography.
  - Flexography.
  - Screen printing.
  - Digital printing.
- Treatments and finishes:
  - Laminating.
  - Embossing.
  - Foil application.
  - Varnishing.

**SPECIALIST KNOWLEDGE Top Tips**

**Section B** of your exam gives you a choice of material area. It consists of a few short answer questions and one extended response question, which is worth more marks.

**Where questions offer a choice on what to write about – choose the material area that you have studied.**

Read the questions carefully and underline any command words.

This section is worth **30 / 100** marks, you should spend approximately 40 minutes on this section of the exam paper.

**Where to access revision material:**

**Paper and Boards:**

GCSE AQA Design and Technology (CGP) Pages 62—65.

The Pocket Sized Revision Guide (Daydream Education) Pages 46 – 54.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/znq8jty/revision/1>



Technology Student:

[http://www.technologystudent.com/despro\\_flnh/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_flnh/NEW_GCSE3.html)

[http://www.technologystudent.com/despro\\_flnh/all\\_revcards1.html](http://www.technologystudent.com/despro_flnh/all_revcards1.html)



**Example exam questions:**

Revision questions can be found on pages 72 - 74 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

14.1: Choose **one** specialist processing technique from the list below.

Laminating	Embossing	Extrusion	Laser cutting	Pleating	Anodising
------------	-----------	-----------	---------------	----------	-----------

Name of chosen specialist process \_\_\_\_\_

Give **two** reasons why the named process is used.

[2 marks]

**What to revise:**

- Properties of materials.
- Standard components.
- Shaping materials:
  - Hand tools.
  - Power and machine tools.
  - Shaping techniques.
- Moulding and joining.
- Treatments and finishes:
  - Paint
  - Varnish
  - Wax
  - Stain
  - Oil

**SPECIALIST KNOWLEDGE Top Tips**

**Section B** of your exam gives you a choice of material area. It consists of a few short answer questions and one extended response question, which is worth more marks.

**Where questions offer a choice on what to write about – choose the material area that you have studied.**

Read the questions carefully and underline any command words.

This section is worth **30 / 100** marks, you should spend approximately 40 minutes on this section of the exam paper.

**Where to access revision material:**

**Timber:**

GCSE AQA Design and Technology (CGP) Pages 75—80\*.

The Pocket Sized Revision Guide (Daydream Education) Pages 55 – 60.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/zkvny4j/revision/1>



(\*Timber/metals/polymers are often on the same page in the revision guide so be selective with what you read.)

Technology Student:

[http://www.technologystudent.com/despro\\_flsh/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_flsh/NEW_GCSE3.html)

[http://www.technologystudent.com/despro\\_flsh/all\\_revcards1.html](http://www.technologystudent.com/despro_flsh/all_revcards1.html)



**Example exam questions:**

Revision questions can be found on pages 83 – 84, 93 - 95 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

14.1: Choose **one** specialist processing technique from the list below.

Laminating	Embossing	Extrusion	Laser cutting	Pleating	Anodising
------------	-----------	-----------	---------------	----------	-----------

Name of chosen specialist process \_\_\_\_\_

Give **two** reasons why the named process is used.

[2 marks]



**What to revise:**

- Properties of materials.
- Standard components and tools.
- Joining and shaping fabrics:
  - Pinning and tacking.
  - Sewing.
  - CAM.
  - Seams.
  - Quilting.
  - Gathering and pleating.
- Treatments and finishes:
  - Dyeing.
  - Printing.

**SPECIALIST KNOWLEDGE Top Tips**

**Section B** of your exam gives you a choice of material area. It consists of a few short answer questions and one extended response question, which is worth more marks.

**Where questions offer a choice on what to write about – choose the material area that you have studied.**

Read the questions carefully and underline any command words.

This section is worth **30 / 100** marks, you should spend approximately 40 minutes on this section of the exam paper.

**Where to access revision material:**

**Textiles:**

GCSE AQA Design and Technology (CGP) Pages 96—99.

The Pocket Sized Revision Guide (Daydream Education) Pages 80 – 91.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/zjc3rwx/revision/1>



Technology Student:

[http://www.technologystudent.com/despro\\_flesh/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_flesh/NEW_GCSE3.html)

[http://www.technologystudent.com/despro\\_flesh/all\\_revcards1.html](http://www.technologystudent.com/despro_flesh/all_revcards1.html)



**Example exam questions:**

Revision questions can be found on pages 108 – 111 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

14.1: Choose **one** specialist processing technique from the list below.

Laminating	Embossing	Extrusion	Laser cutting	Pleating	Anodising
------------	-----------	-----------	---------------	----------	-----------

Name of chosen specialist process \_\_\_\_\_

Give **two** reasons why the named process is used.

[2 marks]



**What to revise:**

- Properties of components in systems.
- Standard components.
- Cutting, drilling and soldering.
- PCB production and surface treatments.

*Many of the AQA sample papers have not had specialist questions in the area of electronics therefore it is important for you to revise the area of TIMBER.*

- Properties of materials.
- Standard components.
- Shaping materials:
  - Hand tools.
  - Power and machine tools.
  - Shaping techniques.
- Moulding and joining.
- Treatments and finishes:

**SPECIALIST KNOWLEDGE Top Tips**

**Section B** of your exam gives you a choice of material area. It consists of a few short answer questions and one extended response question, which is worth more marks.

**Where questions offer a choice on what to write about – choose the material area that you have studied.**

Read the questions carefully and underline any command words.

This section is worth **30 / 100** marks, you should spend approximately 40 minutes on this section of the exam paper.

**Where to access revision material:**

**Electronic & mechanical**

GCSE AQA Design and Technology (CGP) Pages 112—115.  
The Pocket Sized Revision Guide (Daydream Education) Pages 92 – 98.  
BBC Bitesize: <https://www.bbc.com/bitesize/guides/zjc3rwx/revision/1>

**Timber:**

GCSE AQA Design and Technology (CGP) Pages 75—80\*.  
The Pocket Sized Revision Guide (Daydream Education) Pages 55 – 60.  
BBC Bitesize: <https://www.bbc.com/bitesize/guides/zkvny4j/revision/1>



Technology Student:  
[http://www.technologystudent.com/despro\\_flesh/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_flesh/NEW_GCSE3.html)  
[http://www.technologystudent.com/despro\\_flesh/all\\_revcards1.html](http://www.technologystudent.com/despro_flesh/all_revcards1.html)

**Example exam questions:**

Revision questions can be found on pages 93 - 95 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

14.1: Choose **one** specialist processing technique from the list below.

Laminating	Embossing	Extrusion	Laser cutting	Pleating	Anodising
------------	-----------	-----------	---------------	----------	-----------

Name of chosen specialist process \_\_\_\_\_

Give **two** reasons why the named process is used. [2 marks]

**What to revise:**

INVESTIGATING 1: Revise the work of designers, users needs (including ergonomics and anthropometrics).

- The work of at least 2 designers.
- The work of at least 2 design companies.
- Understanding the needs of users:
  - Anthropometrics.
  - Ergonomics.
  - Accessibility for the disabled.
  - Age groups.

**DESIGN AND MAKING Top Tips**

**Section C** of your exam is all about the designing and making process. You have covered many of these aspects throughout your NEA.

Read the questions carefully and underline any command words.

You will be asked to answer a mixture of short answers and extended response questions. Long answer questions are an easy place to pick up marks as long as you have a go.

This section is worth **50 / 100** marks, you are advised to spend approximately 60 minutes on the section of the exam.

**Where to access revision material:**

GCSE AQA Design and Technology (CGP) Pages 123—126.

The Pocket Sized Revision Guide (Daydream Education) Pages 104, 109.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/zbn6pbk/revision/1>



Technology Student resources and flash cards:

[http://www.technologystudent.com/despro\\_flash/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_flash/NEW_GCSE3.html)

[http://www.technologystudent.com/despro\\_flash/all\\_revcards1.html](http://www.technologystudent.com/despro_flash/all_revcards1.html)

**Example exam questions:****SECTION C – Designing and Making Principles**

Extra revision questions on pages 133 - 134 of your revision guides.

Explain why designers research and compare products from other manufacturers before starting to design new products.

[6 marks]

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Further practice papers and full mock exam papers are available on the George Spencer student HUB.

Name **one** designer you have studied as part of this course.

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<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

Name **one** specific product associated with your named designer.

[1 mark]

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**What to revise:**

INVESTIGATING 2: Revise design briefs, specifications, market research and product analysis

- Design briefs and specifications.
- Market research:
  - Data collection.
  - Interviews.
  - Questionnaires.
  - Focus groups.
  - ICT.
- Product analysis (REMEMBER: ACCESS FM).

**DESIGN AND MAKING Top Tips**

**Section C** of your exam is all about the designing and making process. You have covered many of these aspects throughout your NEA.

Read the questions carefully and underline any command words.

You will be asked to answer a mixture of short answers and extended response questions. Long answer questions are an easy place to pick up marks as long as you have a go.

This section is worth **50 / 100** marks, you are advised to spend approximately 60 minutes on the section of the exam.

**Where to access revision material:**

GCSE AQA Design and Technology (CGP) Pages 127 – 132.

The Pocket Sized Revision Guide (Daydream Education) Pages 102 - 103, 106 – 108.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/zbn6pbk/revision/1>



Technology Student resources and flash cards:

[http://www.technologystudent.com/despro\\_flash/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_flash/NEW_GCSE3.html)

[http://www.technologystudent.com/despro\\_flash/all\\_revcards1.html](http://www.technologystudent.com/despro_flash/all_revcards1.html)

**Example exam questions:**

Extra revision questions on pages 133 - 134 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

**SECTION C - Designing and Making Principles**

**Figure 2** shows a hearing aid worn by an adult to assist with loss of hearing.



**Figure 2**

**Specification**

- Very lightweight
- Comfortable to wear
- Low power consumption
- Easy to replace the batteries
- Adjustable volume control and an on/off switch

**What to revise:**

MAKING: Revise prototyping, using materials efficiently and safe working.

- Manufacturing specifications.
- Developing prototypes.
- Using materials efficiently:
  - Waste.
  - Marking out correctly.
  - **Area of shapes – MATHS.**
  - Tessellating.
- Working safely:
  - Protective clothing.
  - Tools and machinery.
  - Handling materials and waste.
  - Risk assessments.
  - Testing.

**DESIGN AND MAKING Top Tips**

**Section C** of your exam is all about the designing and making process. You have covered many of these aspects throughout your NEA.

Read the questions carefully and underline any command words.

You will be asked to answer a mixture of short answers and extended response questions. Long answer questions are an easy place to pick up marks as long as you have a go.

This section is worth **50 / 100** marks, you are advised to spend approximately 60 minutes on the section of the exam.

**Where to access revision material:**

GCSE AQA Design and Technology (CGP) Pages 145 – 152.

The Pocket Sized Revision Guide (Daydream Education) Pages 106 – 107, 120 – 124.

BBC Bitesize: <https://www.bbc.com/bitesize/guides/zbstng8/revision/1>



Technology Student resources and flash cards:

[http://www.technologystudent.com/despro\\_flash/NEW\\_GCSE3.html](http://www.technologystudent.com/despro_flash/NEW_GCSE3.html)

[http://www.technologystudent.com/despro\\_flash/all\\_revcards1.html](http://www.technologystudent.com/despro_flash/all_revcards1.html)

**Example exam questions:**

Extra revision questions on pages 153 - 155 of your revision guides.

Further practice papers and full mock exam papers are available on the George Spencer student HUB.

<https://sites.google.com/george-spencer.notts.sch.uk/designtech/gcse>

You are making one tent as shown in **Figure 1** on page 17.

Assume no material is wasted when cutting and that the material used will be purchased to the nearest full metre.

Cotton is sold by the metre length. The width of the materials is fixed but it can be cut at different lengths.

Stock form		
Material	Roll width	Cost per linear metre
Cotton	5 metres	£18

The table below shows the sizes of the material pieces to make **one** tent.

Cotton fabric required for one tent			
Part description	Pieces required	Length (m)	Width (m)
Tent roof	1	3.0	2.0
Tent front	1	1.8	1.5
Tent back	1	1.8	1.5
Tent sides	2	2.0	0.5

Using the diagram on the opposite page, show the position of each piece of the tent using the least amount of material as possible.

Do not include the groundsheet in your drawing.