AQA – Design & Technology

Preparing for the Mock

Mock Paper 1

2018

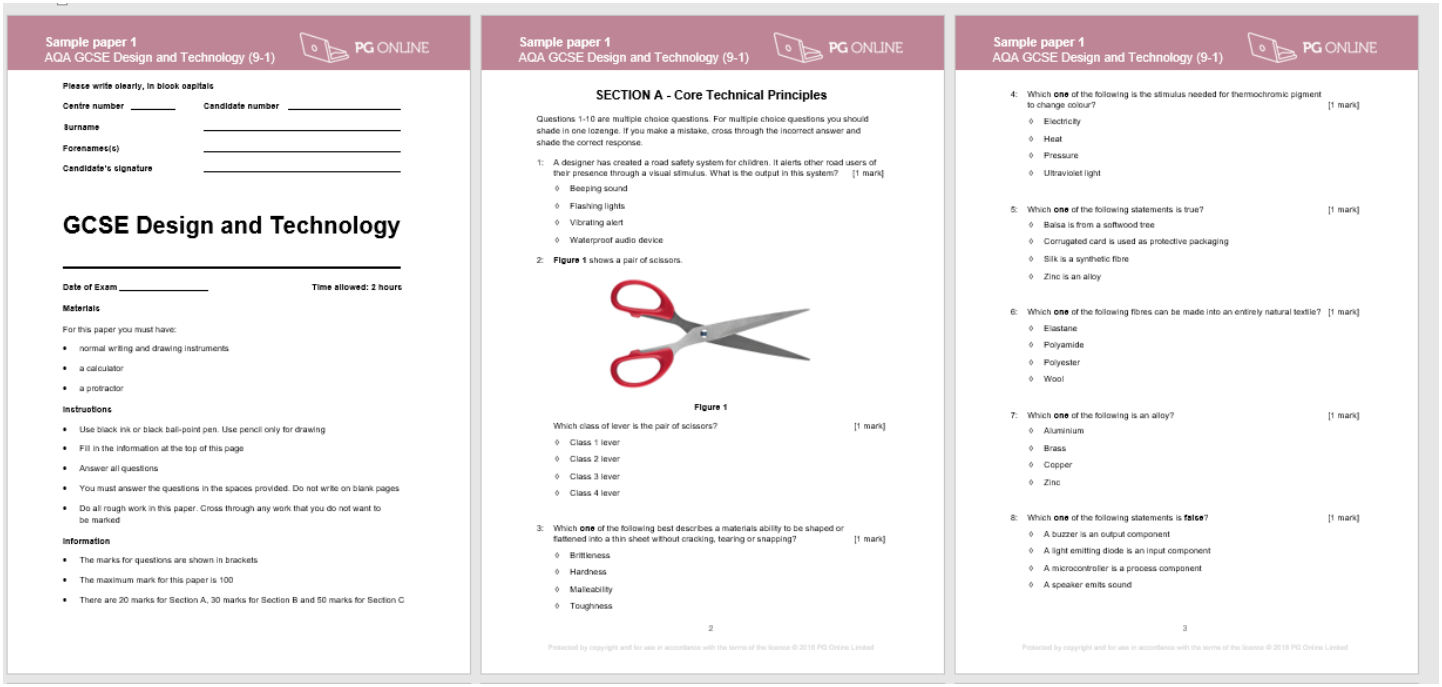
Know what the exam paper looks like

Open the attached document called: 8552 Sample paper 1 PG Online

Note: This is an example paper and **not** the paper for your mock

Tasks

1. Familiarise yourself with the layout of the paper:
   - There are 3 sections, A-C
   - The detail needed for the answers increases with each section
2. Practice answering the questions as part of general revision



Sample paper 1
AQA GCSE Design and Technology (9-1)
PG ONLINE

Please write clearly, in block capitals

Centre number _____ Candidate number _____

Surname _____

Forenames(s) _____

Candidate's signature _____

GCSE Design and Technology

Date of Exam _____ Time allowed: 2 hours

Materials

For this paper you must have:

- normal writing and drawing instruments
- a calculator
- a protractor

Instructions

- Use black ink or black ball-point pen. Use pencil only for drawing
- Fill in the information at the top of this page
- Answer all questions
- You must answer the questions in the spaces provided. Do not write on blank pages
- Do all rough work in this paper. Cross through any work that you do not want to be marked

Information

- The marks for questions are shown in brackets
- The maximum mark for this paper is 100
- There are 20 marks for Section A, 30 marks for Section B and 50 marks for Section C

Sample paper 1
AQA GCSE Design and Technology (9-1)
PG ONLINE

SECTION A - Core Technical Principles

Questions 1-10 are multiple choice questions. For multiple choice questions you should shade in one lozenge. If you make a mistake, cross through the incorrect answer and shade the correct response.

1: A designer has created a road safety system for children. It alerts other road users of their presence through a visual stimulus. What is the output in this system? [1 mark]

- Beeping sound
- Flashing lights
- Vibrating alert
- Waterproof audio device

2: **Figure 1** shows a pair of scissors.

Figure 1

Which class of lever is the pair of scissors? [1 mark]

- Class 1 lever
- Class 2 lever
- Class 3 lever
- Class 4 lever

3: 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

2

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Sample paper 1
AQA GCSE Design and Technology (9-1)
PG ONLINE

4: Which **one** of the following is the stimulus needed for thermochromic pigment to change colour? [1 mark]

- Electricity
- Heat
- Pressure
- Ultraviolet light

5: Which **one** of the following statements is true? [1 mark]

- Balsa is from a softwood tree
- Corrugated card is used as protective packaging
- Silk is a synthetic fibre
- Zinc is an alloy

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

- Elastane
- Polyamide
- Polyester
- Wool

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

- Aluminium
- Brass
- Copper
- Zinc

8: Which **one** of the following statements is **false**? [1 mark]

- A buzzer is an output component
- A light emitting diode is an input component
- A microcontroller is a process component
- A speaker emits sound

3

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What you will need to revise

Open the attached document called: 2018 Sample Paper Revision List

Note: The list is a guide of what each exam question is focused on

Tasks

1. Read through the list and RAG them as:

- RED - I know very little about this question
- AMBER - I have some confidence about this question
- GREEN - I can explain what this means to another person

2. You must gather research about the RED questions

Mock Paper 2018 Revision List	
Systems approach - Input, Process and Output	1. 1mk
4 types of forces	2. 1mk
Chracteristics of ferrous and non-ferrous metals	3. 1mk
Scales of production, CAD and CAM	4. 1mk
Materials used for modelling	5. 1mk
Understanding the term Smart Materials	6. 1mk
Products disassembly, maintenance, manufacture and obsolescence	7. 1mk
Examples of thermosoftening and thermo-setting polymers	8. 1mk
Levers and pivots	9. 1mk
Examples of softwoods and hardwoods	10. 1mk
Advantages of natural and manmade textiles	11. 2mks
Properties of different papers and cards used for food packaging	12. 2mks
Benefits of renewable energy	13.1 2mks
Disadvantages of renewable energy	13.2 2mks
Understanding how to use ratios	13.3 2mks
Know the source for the 5 material groups	14. 5mks
Strengthening and reinforcing products made with the 5 material groups	15. 4mks
Understand the 5 scales of production	16.1 4mks
Understand how to manufacture a product made from of of the 5 material groups	16.2 5mks
Know the characteristices of 3 woods, metals, polymers, papers and textiles	17 2mks
Understand Fair Trade, the 6Rs, Ethical decisions when making a product	18. 10mks
Understand each of the letters of ACCESS FM	19.1 4mks
Evaluate a product against ACCESS FM	19.2 4mks
Understand and apply Ergonomics to a product	19.3 4mks
Understand and apply Anthropometrics to a product	20.1 4mks
Understand and apply Anthropometrics to a product	20.2 4mks
Understand percentages	21.1 1mks
Drawing pie charts, bar graphs and histograms	21.2 2mks
Using data from research to develop a product	21.3 3mks
Developing a standard product used by an adult for a child	22.1 8mks
Purpose of having a product specification	22.2 3mks
Modelling ideas	23.1 1mks
Purpose of modelling/prototyping	23.2 3mks
Drawing orthographic and isometric pictures	24 5mks
Nesting and tesselation of shapes to save materials	25.1 1mks
Calculating area of triangles and quadrilaterals	25.2 3mk

How to gather revision notes

Tasks

1. Chunk the questions into groups of 5
2. Create a revision page for each question from that chunk: do this on paper rather than electronically as you probably won't look at this again
3. Gather research about each question and add the key points from this onto the paper

Questions 1-3

Question 4

Question 5

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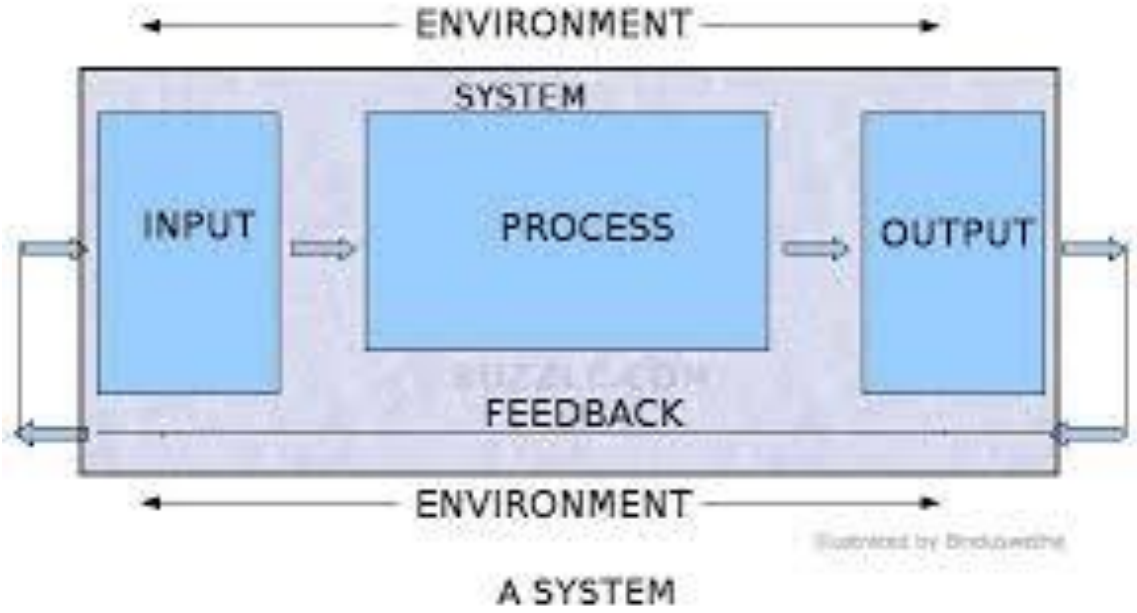
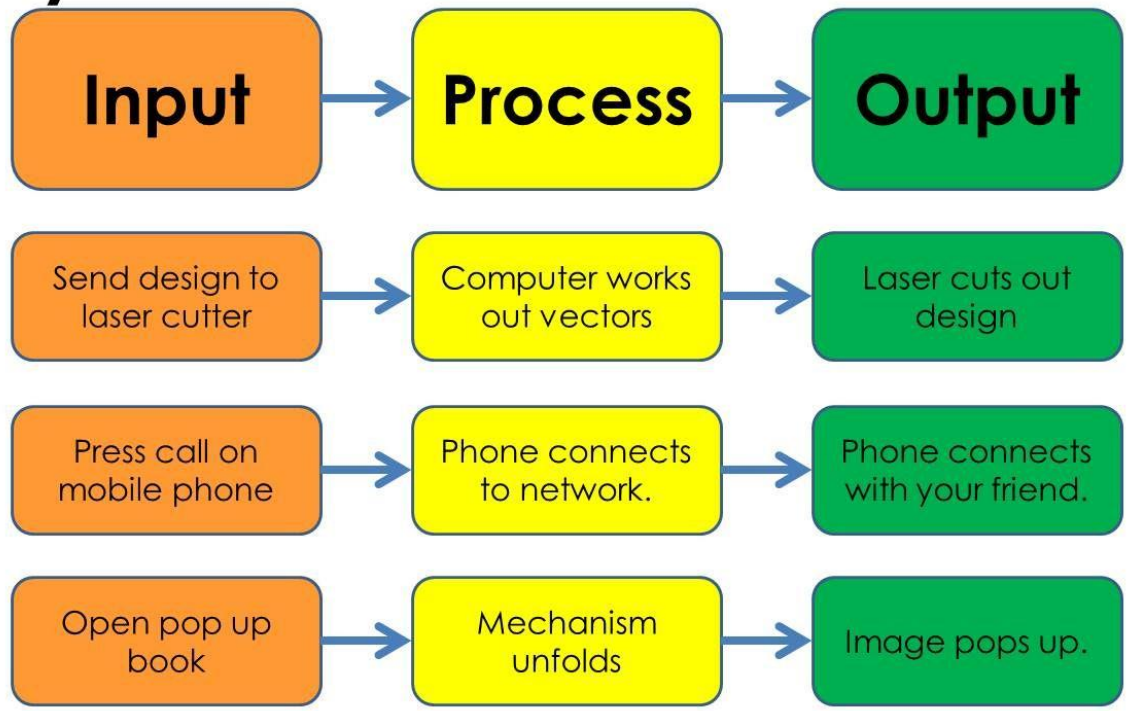
Question 1 - Systems approach - Input, Process and Output

The **systems approach** is a problem solving paradigm. That is to say, the **systems approach**. considers the attributes of an entire **system** to achieve the objective of a **system**, which is to solve. a problem. The **systems approach** allows the designer to manage, encapsulate, and anticipate.

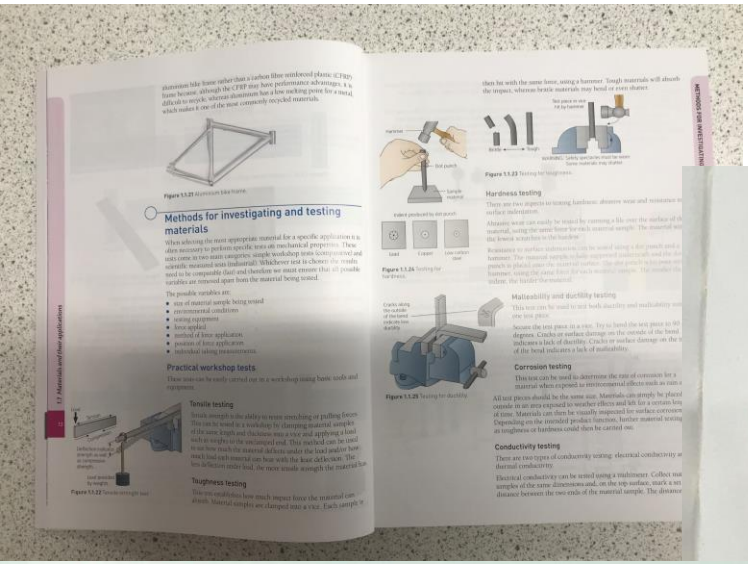


A SYSTEM

Systems and control:



Question 1 - Systems approach - Input, Process and Output



Methods for investigating and testing materials

Practical workshop tests

Tensile testing

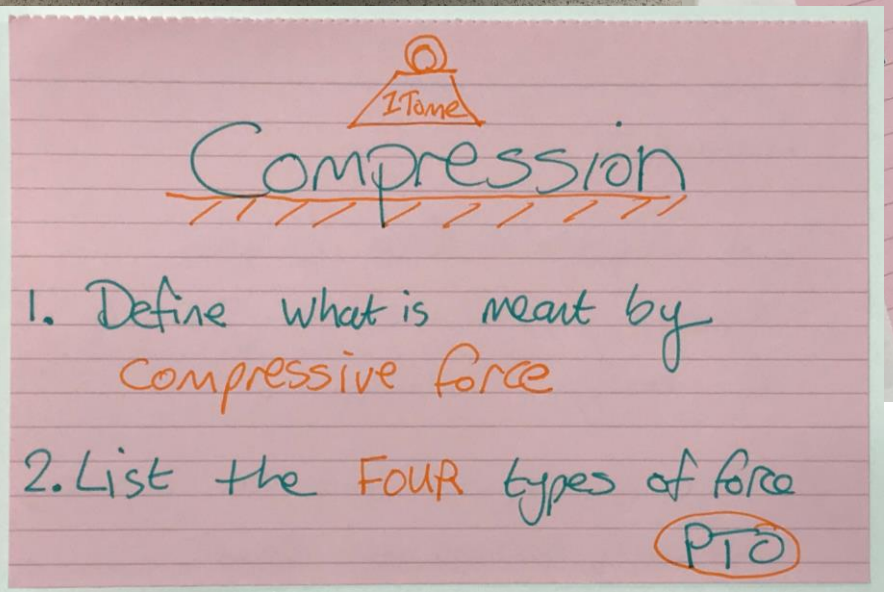
Toughness testing

Hardness testing

Malleability and ductility testing

Corrosion testing

Conductivity testing



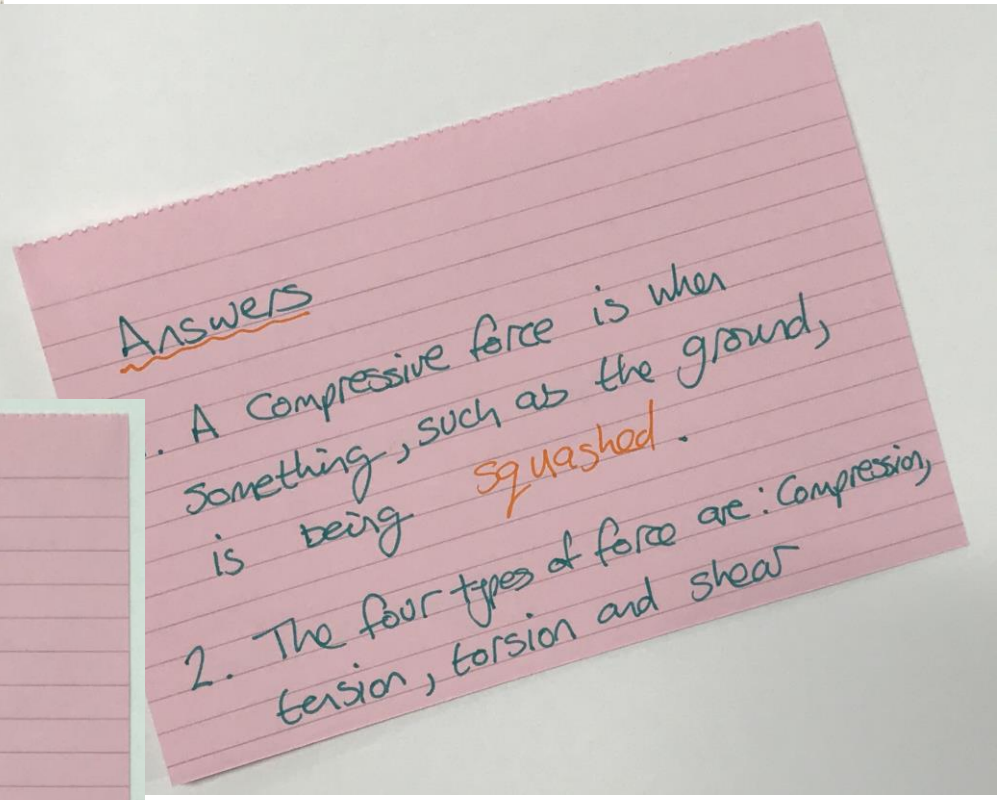
1 Tonne

Compression

1. Define what is meant by compressive force

2. List the FOUR types of force

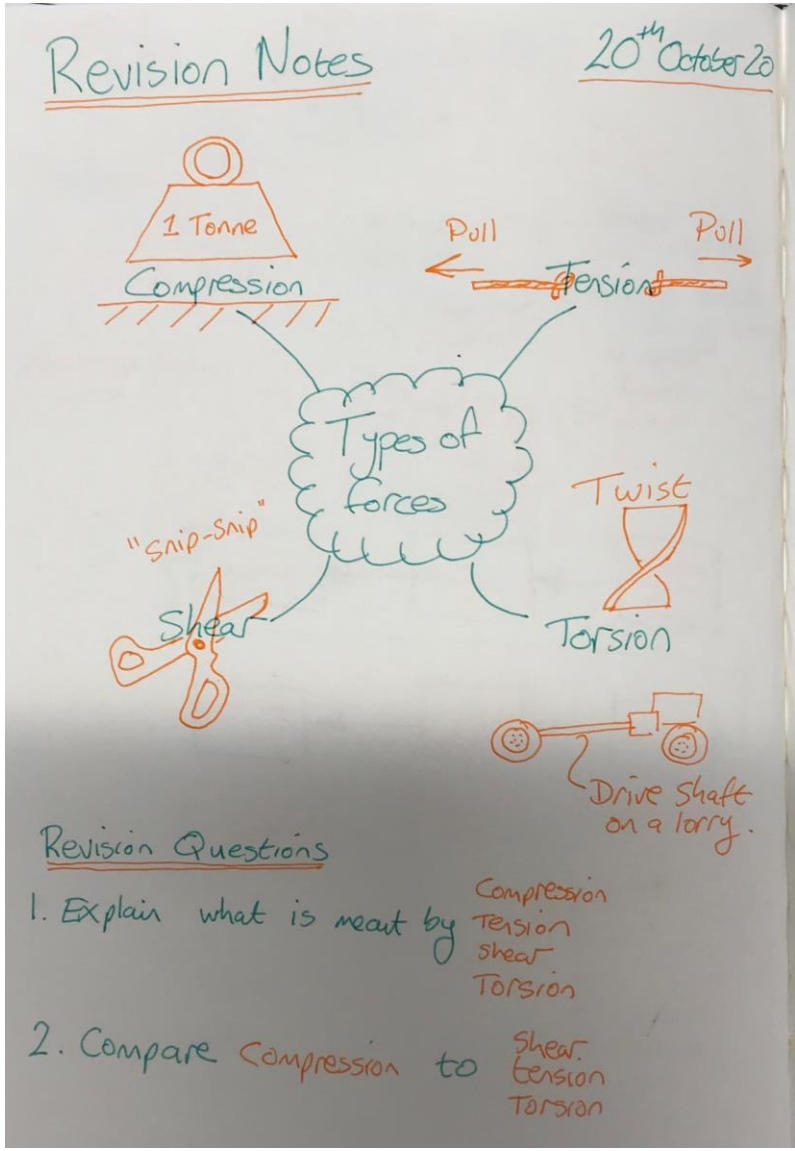
PTO



Answers

1. A compressive force is when something, such as the ground, is being squashed.

2. The four types of force are: Compression, tension, torsion and shear



Revision Notes

20th October 20

1 Tonne

Compression

Pull

Pull

Tension

Types of forces

"snip-snip"

Shear

Twist

Torsion

Drive shaft on a lorry.

Revision Questions

1. Explain what is meant by Compression Tension Shear Torsion

2. Compare Compression to Shear Tension Torsion

Practice answering an exam question

write a question for Systems approach which uses the following command words; use a maximum of 12 words

define

describe

explain

state

justify

evaluate

define

discuss

compare