



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

DESIGN AND TECHNOLOGY

0445/11

Paper 1 Product Design

October/November 2016

1 hour 15 minutes

Candidates answer on the pre-printed A3 Answer Sheets.

Additional Materials: Standard drawing equipment and coloured pencils.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces on **both** printed Answer Sheets.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer **one** question.

Write/draw your answers in the spaces provided on the Answer Sheets.

You may use a calculator.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

The total of the marks for this paper is 50.

This document consists of **4** printed A4 pages and **2** A3 Inserts.

Answer **one** question only on the pre-printed A3 Answer Sheets provided.

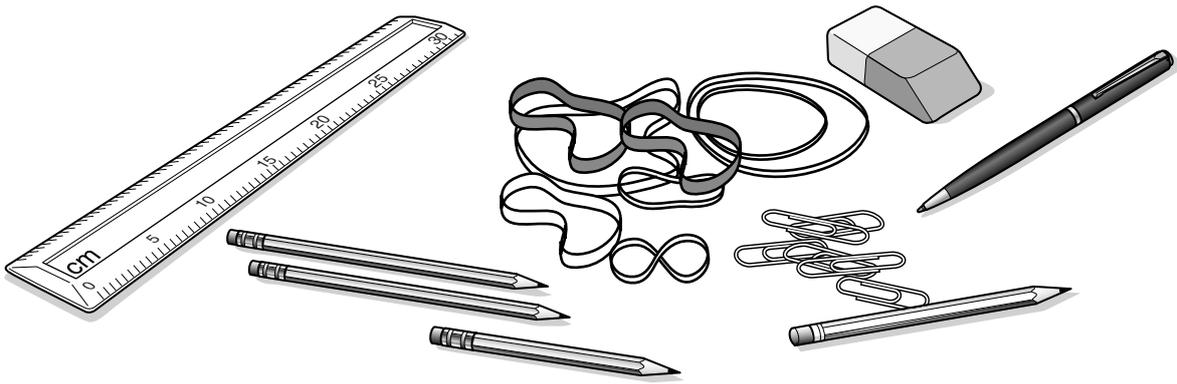
- 1 Children like to keep a few personal items by their bed when they are sleeping.



Design a unit that would hold the above items close to a child's bed.

- (a) List **four** additional points about the function of such a unit that you consider to be important. [4]
- (b) Use sketches and notes to show **two** ways of making furniture safe for children. [4]
- (c) Develop and sketch **three** ideas for the unit. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution. [6]

- 2 Writing and drawing equipment can easily get lost in a child's room if there is nowhere to store it.



Design a lightweight holder for the above items that could be used in a child's room. The holder must fold flat for packaging and delivery.

- (a) List **four** additional points about the function of such a holder that you consider to be important. [4]
- (b) Use sketches and notes to show **two** ways by which thin lightweight material can be made to hinge or fold. [4]
- (c) Develop and sketch **three** ideas for the holder. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution. [6]

- 3 Some children are frightened by the dark and need some form of low-level lighting at night.



Design a bedroom light that would appeal to young children.

- (a) List **four** additional points about the function of such a light that you consider to be important. [4]
- (b) Use sketches and notes to show **two** places in a bedroom where such a light might be located. [4]
- (c) Develop and sketch **three** ideas for the light. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your own choice, a full solution to the problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution. [6]

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