



Cambridge IGCSE™ (9–1)

DESIGN & TECHNOLOGY

0979/12

Paper 1 Product Design

October/November 2024

1 hour 15 minutes



You must answer on the two pre-printed A3 answer sheets.

You will need: Two A3 pre-printed answer sheets (enclosed)
Standard drawing equipment
Coloured pencils

INSTRUCTIONS

- Answer **one** question.
- Use an HB pencil for any drawings and a black or dark blue pen for any writing.
- Write your name, centre number and candidate number in the space on **both** pre-printed answer sheets.
- Answer in the space provided on the answer sheets.
- Do **not** use an erasable pen, staples, paper clips, glue or correction fluid.
- Do **not** write on any bar codes.
- You may use a calculator.
- You may use standard drawing equipment, including coloured pencils.
- At the end of the examination, hand in your named A3 answer sheets. Do **not** fasten them together and do **not** punch holes in the sheets or tie with string.

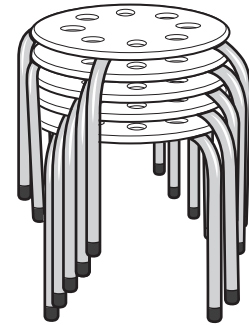
INFORMATION

- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [].
- All dimensions are in millimetres unless otherwise stated.

This document has 4 pages.

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

- 1 Families like to eat outdoors when the weather is nice.



stacking stools
400 high × 280 diameter

Design a table that could be used outdoors with the stacking stools shown. When not in use, the table must take up as little space as possible and have a handle for carrying.

- (a) List **four** additional points about the function of such a table that you consider to be important. [4]
- (b) Use sketches and notes to show **two** methods of making a product smaller, to take up less space, when not in use. [4]
- (c) Develop and sketch **three** separate ideas for the table. [12]
- (d) Evaluate your three ideas. Choose **one** idea to develop further and justify your choice. [8]
- (e) Draw, using a method of your own choice, a full solution to the design problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for the solution you have drawn in part (e) and give reasons for your choice. [4]
- (g) Outline a method that could be used to manufacture **one** part of your solution drawn in part (e). Include the names of the tools used. [6]

2 Children often collect shells when they visit a beach.



Design a container that a child could use to collect shells. The container must be made from a single piece of thin sheet material, have three compartments and have a handle for carrying.

- (a) List **four** additional points about the function of such a container that you consider to be important. [4]
- (b) Use sketches and notes to show **two** methods of joining thin sheet material. [4]
- (c) Develop and sketch **three** separate ideas for the container. [12]
- (d) Evaluate your three ideas. Choose **one** idea to develop further and justify your choice. [8]
- (e) Draw, using a method of your own choice, a full solution to the design problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for the solution you have drawn in part (e) and give reasons for your choice. [4]
- (g) Outline a method that could be used to manufacture **one** part of your solution drawn in part (e). Include the names of the tools used. [6]

3 Outdoor play equipment for children is provided in parks and public places.



Design a device that will add sound to outdoor play equipment. The device must be powered and activated by the movement of the children and **not** use any additional power sources.

- (a) List **four** additional points about the function of such a device that you consider to be important. [4]
- (b) Use sketches and notes to show **two** ways of using movement to produce a sound. [4]
- (c) Develop and sketch **three** separate ideas for a device that will add sound to outdoor play equipment. [12]
- (d) Evaluate your three ideas. Choose **one** idea to develop further and justify your choice. [8]
- (e) Draw, using a method of your own choice, a full solution to the design problem. Include construction details and important dimensions. [12]
- (f) Suggest **two** suitable specific materials for the solution you have drawn in part (e) and give reasons for your choice. [4]
- (g) Outline a method that could be used to manufacture **one** part of your solution drawn in part (e). Include the names of the tools used. [6]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.