



Cambridge O Level

CDT: DESIGN AND COMMUNICATION

7048/02

Paper 2 Design Project

May/June 2022

Information for the examination in 2022.

INSTRUCTIONS

- You should spend two terms designing and realising possible solutions to **one** of the following design situations.
- Wherever possible you should apply your chosen design situation to an actual location in your local area.
- Remember this is coursework and you may seek guidance from your teacher in developing your design work.

This document has **12** pages. Any blank pages are indicated.

1 A school wishes to raise funds to buy outdoor play equipment for the school playground. The school needs:

- (a) A3 posters to advertise the focus of the fundraising
- (b) containers to collect donations at fundraising events.

Research:

- (a) the design and construction of posters to advertise the focus of the fund raising
- (b) the design and construction of containers for charity donations.

Use the results of your research to help you write a detailed specification for:

- (a) an A3 poster to give the focus of the fund raising
- (b) a container to collect donations.

Produce and evaluate a range of ideas for an A3 poster to give details of the focus of the fund raising and a container to collect donations.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a prototype of the poster and the container.

Produce working drawings of:

- (a) the A3 poster
- (b) the container.

Produce a comprehensive plan for making the poster and a prototype of the container.

Produce an A3 poster and a prototype of the container. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the poster and the container. Suggest and justify any appropriate improvements.

2 Students of design and technology need a way to carry work and equipment to and from school.

Research:

- (a) the range of ways in which students of design and technology carry work and equipment to and from school
- (b) the design and construction of products used to carry design and technology work and equipment to and from school.

Use the results of your research to help you write a detailed specification for a product to carry design and technology work and equipment to and from school.

Produce and evaluate a range of ideas for a product to carry design and technology work and equipment to and from school.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a prototype of a product to carry design and technology work and equipment to and from school.

Produce a working drawing of the product.

Produce a comprehensive plan for making a prototype of the product.

Produce a prototype of the product. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the product. Suggest and justify any appropriate improvements.

3 A museum wishes to offer a range of educational gifts that visitors can buy.

Research:

(a) museums and the resources available for visitors

(b) specific information which could be used to develop ideas for an educational gift.

Identify a museum on which you will base your work and collect information about it.

Use the results of your research to help you write a detailed specification for an educational gift.

Produce and evaluate a range of ideas for an educational gift.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make an educational gift.

Produce a working drawing of the educational gift.

Produce a comprehensive plan for making a prototype of the educational gift.

Produce a prototype of the educational gift. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the educational gift. Suggest and justify any appropriate improvements.

- 4 A village wishes to create an outdoor community space where people can meet socially.

Research:

- (a) possible sites for the outdoor community space
- (b) existing outdoor community spaces and the facilities that they include.

Identify:

- (a) a suitable area for the outdoor community space and collect information about it
- (b) the range of facilities, equipment or furniture that the outdoor community space may include.

Use the results of your research to help you write a detailed specification for:

- (a) the layout of the outdoor community space
- (b) **one** item of equipment or furniture that would be included in the outdoor community space.

Produce and evaluate a range of design proposals for the layout of the outdoor community space and one item of equipment or furniture that would be included in the outdoor community space.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make prototypes of the layout of the outdoor community space and the item of equipment or furniture.

Produce working drawings of:

- (a) the layout of the outdoor community space
- (b) the item of equipment or furniture.

Produce a comprehensive plan for making prototypes of the layout of the outdoor community space and the item of equipment or furniture.

Produce prototypes of the layout of the outdoor community space and the selected item of equipment or furniture. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the layout of the outdoor community space and the item of equipment or furniture. Suggest and justify any appropriate improvements.

5 A local furniture store wishes to introduce a range of multi-purpose furniture.

Research:

- (a) possible opportunities for a piece of furniture to satisfy two or more functions
- (b) the design and construction of multi-purpose furniture.

Identify the different functions that your selection of multi-purpose furniture would satisfy.

Use the results of your research to help you write a detailed specification for an item of multi-purpose furniture.

Produce and evaluate a range of ideas for an item of multi-purpose furniture.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a prototype of the item of multi-purpose furniture.

Produce a working drawing of the item of multi-purpose furniture.

Produce a comprehensive plan for making a prototype of the item of multi-purpose furniture.

Produce a prototype of the item of multi-purpose furniture. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the item of multi-purpose furniture. Suggest and justify any appropriate improvements.

- 6 A company plans to manufacture toys based on the theme of flight. The company will sell the toys in kit form.

Research:

- (a) the design and construction of toys based on the theme of flight
- (b) assembly and disassembly methods used for toys sold in kit form.

Use the results of your research to help you write a detailed specification for a toy kit based on the theme of flight.

Produce and evaluate a range of ideas for a toy kit based on the theme of flight.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a prototype of a toy kit based on the theme of flight.

Produce a working drawing of the toy kit.

Produce a comprehensive plan for making a prototype of the toy kit.

Produce a prototype of the toy kit. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the toy kit. Suggest and justify any appropriate improvements.

7 A local festival wants to provide fast food stalls.

Research:

- (a) the design and construction of fast food stalls
- (b) how food is served to customers at a fast food stall.

Use the results of your research to help you write a detailed specification for:

- (a) a fast food stall
- (b) a container to serve fast food to customers.

Produce and evaluate a range of ideas for a fast food stall and a container to serve fast food to customers.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a prototype of a fast food stall and a container to serve fast food to customers.

Produce working drawings of:

- (a) the fast food stall
- (b) the container to serve fast food to customers.

Produce a comprehensive plan for making a prototype of the fast food stall and the container to serve fast food to customers.

Produce a prototype of the fast food stall and the container to serve fast food to customers. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the fast food stall and the container to serve fast food to customers. Suggest and justify any appropriate improvements.

8 A tourist board wishes to produce a pop-up booklet about the fauna and flora of the local area.

Research:

(a) the design and construction of pop-up booklets

(b) the fauna and flora of the local area.

Use the results of your research to help you write a detailed specification for a pop-up booklet about the fauna and flora of the local area.

Produce and evaluate a range of ideas for a pop-up booklet about the fauna and flora of the local area.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a pop-up booklet about the fauna and flora of the local area.

Produce a working drawing of the pop-up booklet.

Produce a comprehensive plan for making a pop-up booklet.

Produce a pop-up booklet about the fauna and flora of the local area. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the pop-up booklet. Suggest and justify any appropriate improvements.

- 9 A school wants a rocking toy for two children aged 4–5 years. The toy must be easy to assemble. The maker must provide assembly instructions.

Research:

- (a) the design and construction of rocking toys
- (b) instructions for customers to assemble products.

Use the results of your research to help you write a detailed specification for an accompanying instruction sheet for assembling the rocking toy.

Use the results of your research to help you write a detailed specification for:

- (a) a rocking toy for two children
- (b) instructions for the assembly of the rocking toy for two children.

Produce and evaluate a range of ideas for:

- (a) a rocking toy for two children
- (b) instructions for assembly of the rocking toy for two children.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a prototype of the rocking toy for two children.

Produce a working drawing of the rocking toy.

Produce a comprehensive plan for making the prototype of the rocking toy.

Produce a prototype of the rocking toy. Use photographs and notes to record the making process.

Having produced the prototype of the rocking toy, create instructions to show how the rocking toy is assembled.

Use the specification points and appropriate user testing to evaluate fully the rocking toy and the instructions to assemble the rocking toy. Suggest and justify any appropriate improvements.

- 10** A company wants to give an eco-friendly wristband/bracelet to customers who buy a reusable water bottle.

The company also needs a counter-top display for the two products.

Research:

- (a)** eco-friendly products, particularly eco-friendly wristbands/bracelets and reusable water bottles
- (b)** the design and construction of counter-top display stands.

Identify a suitable existing reusable water bottle that you will use to design a counter-top display stand and collect information about it.

Use the results of your research to help you write a detailed specification for:

- (a)** an eco-friendly wristband/bracelet
- (b)** a counter-top display stand to hold a reusable water bottle and eco-friendly wristbands/bracelets.

Produce and evaluate a range of ideas for:

- (a)** an eco-friendly wristband/bracelet
- (b)** a counter-top display stand to hold a reusable water bottle and eco-friendly wristbands/bracelets.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a prototype of the wristband/bracelet and the counter-top display stand.

Produce working drawings of:

- (a)** the wristband/bracelet
- (b)** the counter-top display stand.

Produce a comprehensive plan for making a prototype of the wristband/bracelet and the counter-top display stand.

Produce a prototype of the wristband/bracelet and the counter-top display stand. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the wristband/bracelet and the counter-top display stand. Suggest and justify any appropriate improvements.

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