



CDT: DESIGN AND COMMUNICATION

7048/02

Paper 2 Design Project

For Examination from 2017

SPECIMEN PAPER

READ THESE INSTRUCTIONS FIRST

You are required to 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 that this is coursework and you may seek guidance from your teacher in developing your design work.**

This document consists of **11** printed pages and **1** blank page.

- 1 Consider the situation where a range of children's toothbrushes, based on cartoon characters, is to be produced. Each toothbrush will be packaged in a blister pack.

Research:

- (a) the design and construction of existing toothbrushes and blister packs;
- (b) cartoon characters on which you could base your work.

Identify a suitable cartoon character and collect some information about it.

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

Produce and evaluate a range of design proposals for:

- (a) a toothbrush;
- (b) a blister pack.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a model of your design for a toothbrush and a prototype of your design for a blister pack.

Produce working drawings of both the toothbrush and the blister pack.

Produce a comprehensive plan for making both the toothbrush and the blister pack.

Produce a model of the toothbrush and a prototype of the blister pack. Use photographs and notes to record the making process.

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

2 Consider the situation where a footbridge is to be built across a road.

Research:

(a) the design and construction of existing footbridges;

(b) possible sites for the footbridge.

Identify a suitable site for the footbridge and collect some information about it.

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

Produce and evaluate a range of design proposals for a footbridge.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a model of your design for a footbridge.

Produce a working drawing of the footbridge.

Produce a comprehensive plan for making a model of the footbridge.

Produce a model of the footbridge. Use photographs and notes to record the making process.

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

3 Consider the situation where a pet carrier, made from cardboard, is to be produced.

Research:

(a) the design and construction of existing pet carriers;

(b) the possible types of family pet that the design could be produced for.

Identify a suitable range of family pets that you will base your work on and collect some information about their size and weight.

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

Produce and evaluate a range of design proposals for a pet carrier.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a prototype of your design for a pet carrier.

Produce a working drawing of the pet carrier.

Produce a comprehensive plan for making a prototype of the pet carrier.

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

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

- 4 Consider the situation where a new Design and Technology room is to be built at your school or college.

Research:

- (a) possible sites for the room;
- (b) possible facilities that could be included in the room.

Identify:

- (a) a suitable site for the room;
- (b) the facilities that will be included in the room and collect some information about them.

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

Produce and evaluate a range of design proposals for:

- (a) the internal layout of the room;
- (b) the external appearance of the room.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a model of your design for a Design and Technology room.

Produce working drawings which show the internal layout and the external appearance of the room.

Produce a comprehensive plan for making a model of the room.

Produce a model which shows the internal layout and the external appearance of the room. Use photographs and notes to record the making process.

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

- 5 Consider the situation where a series of 2D models of 'Formula One' racing circuits is to be produced. Each model will consist of a number of pieces of card that join together to form a circuit. 3D features such as the pits and stands will **not** be included.

Research:

- (a) 'Formula One' racing circuits;
- (b) ways in which the pieces of card could join together without the use of glue or other additional materials.

Identify a 'Formula One' racing circuit that you will base your work on and collect some information about it.

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

Produce and evaluate a range of design proposals for:

- (a) a model of a 'Formula One' racing circuit;
- (b) packaging for the model.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make prototypes of both the 2D model of a 'Formula One' racing circuit and its packaging.

Produce working drawings of both the 2D model of a 'Formula One' racing circuit and its packaging.

Produce a comprehensive plan for making prototypes of both the 2D model of a 'Formula One' racing circuit and its packaging.

Produce prototypes of both the 2D model of a 'Formula One' racing circuit and its packaging. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the 2D model of a 'Formula One' racing circuit and its packaging. Suggest and justify any appropriate improvements.

- 6 Consider the situation where a children's magnetic fishing game, based on the marine life of Mauritius, is to be produced.

Research:

- (a) the marine life that you could base your work on;
- (b) the design and construction of magnetic fishing games and their packaging.

Identify the marine life that you will include in the game and collect some information about it.

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

Produce and evaluate a range of design proposals for:

- (a) a magnetic fishing game;
- (b) packaging for the game.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make prototypes of both the magnetic fishing game and its packaging.

Produce working drawings of both the magnetic fishing game and its packaging.

Produce a comprehensive plan for making prototypes of both the magnetic fishing game and its packaging.

Produce prototypes of both the magnetic fishing game and its packaging. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the magnetic fishing game and its packaging. Suggest and justify any appropriate improvements.

- 7** Consider the situation where designs for the graphics to go on a bicycle helmet and packaging for the helmet are required.

Research:

- (a)** bicycle helmets on which you could base your work;
- (b)** the design and construction of existing packaging for bicycle helmets.

Identify a bicycle helmet on which you will base your work and collect some information about it.

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

Produce and evaluate a range of design proposals for:

- (a)** the graphics to go on the helmet;
- (b)** packaging for the helmet, this must include a way of carrying the packaging and an illustration of the helmet complete with the graphics that you have designed.

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 packaging for the bicycle helmet.

Produce a working drawing of the packaging for the bicycle helmet.

Produce a comprehensive plan for making a prototype of the packaging for the bicycle helmet.

Produce a prototype of the packaging for the bicycle helmet. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully the packaging for the bicycle helmet. Suggest and justify any appropriate improvements.

- 8 Consider the situation where a metal shipping container is to be converted into a changing facility for a local football club.

Research:

- (a) metal shipping containers;
- (b) existing football changing facilities;
- (c) local football clubs that you could base your work on.

Identify:

- (a) a local football club that you will base your work on;
- (b) what the club would like to have in the changing facility and collect some information about this.

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

Produce and evaluate a range of design proposals for:

- (a) the internal layout of the changing facility;
- (b) the external appearance of the changing facility.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make a model of the changing facility.

Produce working drawings of both the internal layout and the external appearance of the changing facility.

Produce a comprehensive plan for making a model of the changing facility.

Produce a model which shows the internal layout and the external appearance of the changing facility. Use photographs and notes to record the making process.

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

- 9 Consider the situation where a guide to the top five tourist attractions in Mauritius and a holder to display the guide are required.

Research:

- (a) tourist attractions that could be included in the guide;
- (b) the design and construction of current tourist guides and the holders used to display them.

Identify the tourist attractions that you will include in your guide and collect some information about them.

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

Produce and evaluate a range of design proposals for:

- (a) the guide;
- (b) the holder.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make prototypes of both the guide and the holder.

Produce working drawings of both the guide and the holder.

Produce a comprehensive plan for making prototypes of both the guide and the holder.

Produce prototypes of both the guide and the holder. Use photographs and notes to record the making process.

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

- 10** Consider the situation where a hanging mobile and its packaging is to be made to sell to tourists visiting Mauritius. The design must in some way reflect the beauty, culture or history of the island. The separate parts of the hanging mobile will move in currents of air.

Research:

- (a) the design and construction of existing hanging mobiles and their packaging;
- (b) topics that the design of the hanging mobile and its packaging could be based on.

Identify parts of the island, its culture or history on which you will base your work and collect some information about them.

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

Produce and evaluate a range of design proposals for:

- (a) a hanging mobile;
- (b) packaging for the hanging mobile.

Carry out tests and trials to establish the construction and joining methods, materials and dimensions that you will use to make prototypes of both the hanging mobile and its packaging.

Produce working drawings of both the hanging mobile and its packaging.

Produce a comprehensive plan for making prototypes of both the hanging mobile and its packaging.

Produce prototypes of both the hanging mobile and its packaging. Use photographs and notes to record the making process.

Use the specification points and appropriate user testing to evaluate fully both the hanging mobile and its packaging. Suggest and justify any appropriate improvements.

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