
CDT: DESIGN AND COMMUNICATION

7048/02

Paper 2: School Based Assessment

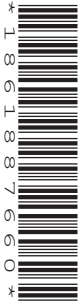
October/November 2014

INFORMATION FOR THE EXAMINATION IN 2014

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

You are required to spend two semesters (terms) designing and realising possible solutions to one of the following problems. Wherever possible you should apply your chosen problem to an actual location in your local area. **Remember that this is coursework and you may seek guidance from your teacher or any other sources that may support you in developing your design work.**



This document consists of **6** printed pages and **2** blank pages.

- 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.

Develop designs for:

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

Produce a model of the toothbrush and a prototype of the blister pack. These should be accompanied by supporting drawings that fully communicate your designs.

Devise and use suitable techniques for testing your designs against their original specification so that they can be evaluated fully.

- 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.

Develop a design for a footbridge.

Produce a model of the footbridge along with supporting drawings that fully communicate your design.

Devise and use suitable techniques for testing your design against its original specification so that it can be evaluated fully.

- 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.

Develop a design for a pet carrier.

Produce a prototype of the pet carrier along with supporting drawings that fully communicate your design.

Devise and use suitable techniques for testing your design against its original specification so that it can be evaluated fully.

- 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.

Develop designs for:

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

Produce a model which shows the internal layout and the external appearance of the room along with supporting drawings that fully communicate your designs.

Devise and use suitable techniques for testing your designs against their original specification so that they can be evaluated fully.

- 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.

Develop designs for:

- (a) a 2D model of a 'Formula One' racing circuit;
- (b) packaging for the model.

Produce prototypes of both the 2D model and the packaging. These should be accompanied by supporting drawings that fully communicate your designs.

Devise and use suitable techniques for testing your designs against their original specification so that they can be evaluated fully.

- 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.

Develop designs for:

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

Produce prototypes of both the game and the packaging. These should be accompanied by supporting drawings that fully communicate your designs.

Devise and use suitable techniques for testing your designs against their original specification so that they can be evaluated fully.

- 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.

Develop designs 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.

Produce a prototype of the packaging along with supporting drawings that fully communicate your design.

Devise and use suitable techniques for testing your design against its original specification so that it can be evaluated fully.

- 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.

Develop designs for:

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

Produce a model which shows the changing facility's internal layout and external appearance along with supporting drawings that fully communicate your designs.

Devise and use suitable techniques for testing your designs against their original specification so that they can be evaluated fully.

- 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.

Develop designs for:

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

Produce prototypes of both the guide and the holder. These should be accompanied by supporting drawings that fully communicate your designs.

Devise and use suitable techniques for testing your designs against their original specification so that they can be evaluated fully.

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

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 it.

Develop designs for:

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

Produce prototypes of both the hanging mobile and its packaging. These should be accompanied by supporting drawings that fully communicate your designs.

Devise and use suitable techniques for testing your designs against their original specification so that they can be evaluated fully.

BLANK PAGE

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.

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