

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

DESIGN & TECHNOLOGY
(PRODUCT DESIGN)

B802/TS

Unit 2 Designing and Making Innovation Challenge

To be opened on the day of the examination
between 15th May 2006 and 23rd June 2006

INSTRUCTIONS TO CANDIDATES

You will have a total of 6 hours to complete the examination. This is normally 2 × 3 hours sessions.

At the end of the examination you must have:

- ✓ selected one of the challenges detailed on this paper;
- ✓ completed an answer booklet showing your creative thinking and how your idea works;
- ✓ produced a model/prototype to show the important features of your design;
- ✓ have at least four photographs fixed in your workbook showing your modelling activities;
- ✓ produced a persuasive argument about why your product will attract the users you are aiming at;
- ✓ completed the “Reflection” section of the workbook at some time between 24 and 72 hours after completion of the challenge; and
- ✓ *considered within your design, the ‘further supplementary information,’ detailed in italics, for your selected challenge.*

This task sheet consists of 4 printed pages.

A Day on the Beach

The situation:

As part of their holiday many families enjoy spending time on the beach. Throughout a day, the family might want to:

- Sunbathe
- Swim
- Sit in the shade
- Keep out of the wind
- Eat and drink
- Play

A company called “**Beach Aid**” has decided to develop a new range of innovative products that could be used to transport one or some of the items needed for a day on the beach from the car/coach park, hotel, apartment, caravan or tent. The distances can be quite far and some of the items required are heavy and awkward to carry over grass and sand.

The items a family **might** carry to the beach include the following:

Beach bags, cool box / picnic basket, towels, swimming costumes, sun hats, sun shade, sun lotion, valuable personal items, wind break, lilo, beach chairs, picnic rug, bucket and spade, bats and balls, kite, surf board, books, etc.

You are to design and model a product that could transport one or some of these items easily to the beach.

Your design **should** include:

- the possibility of being multi-functional; or
- the reduction of the number of different things that have to be carried; or
- the redesign of an item to be more compact.

YOU MUST ALSO CONSIDER THE FOLLOWING SUPPLEMENTARY INFORMATION. MARKS WILL BE AWARDED ACCORDINGLY.

- ***The weather at the beach is changeable. Sunshine and showers are expected. Your design must be suitable for both these situations.***

Take Five

The situation:

Many of us are not eating enough fruit and vegetables. The recommended daily intake of fruit and vegetables is at least 5 portions.

A company called “**Take Five**” are compiling recipe sheets to be displayed on the ‘fruit and vegetable’ counters in supermarkets. They wish to develop a new range of creative food ideas that use fruit and vegetables as the main food ingredients.

These recipes are designed to:

- include a total of **Five** fruits and or vegetables;
- be prepared at home using ingredients that are readily available;
- to enliven the taste buds of consumers;
- to improve the health of consumers.

All additional ingredients used, should be as healthy as possible avoiding the inclusion of large amounts of sugar, fat or salt. The purpose of these recipes could be any of the following:

- humorous;
- have disguised ingredients;
- have a surprise element; or
- have a secretive element.

You are to design and model a recipe for the company “Take Five”.

You should base your recipes around:

- An occasion e.g. a birthday, a wedding, a religious festival etc.;
- an environment e.g. the seaside, the moon, the zoo etc.; or
- an alternative area of your choice.

YOU MUST ALSO CONSIDER THE FOLLOWING SUPPLEMENTARY INFORMATION. MARKS WILL BE AWARDED ACCORDINGLY.

- ***Your design should incorporate the use of at least one citrus fruit.***

Rainwater

The situation:

Water is becoming more scarce.

A company called “**Rain Joy**” has decided to develop a new range of innovative products that utilises rainwater.

These products could have elements of surprise in them.

The purpose of these products could be any of the following:

- watering plants;
- powering garden ornaments;
- providing energy; or
- entertainment and enjoyment.

You are to design and model a product for the company “Rain Joy” that uses /re-uses rainwater.

You should consider the whole system when you design the product, including how the water needs to be stored if appropriate.

You should choose a suitable context from:

- the home;
- the garden;
- a city park;
- a town centre;
- a sports ground; or
- any other outdoor activity or energy production.

YOU MUST ALSO CONSIDER THE FOLLOWING SUPPLEMENTARY INFORMATION. MARKS WILL BE AWARDED ACCORDINGLY.

- ***Your design should include some form of mechanical movement (Rotary, Linear, Reciprocating or Oscillating).***

Entertainment

The situation:

Things are not always what they seem!

Delight often comes from discovering an element of surprise, something unusual, clever, or unexpected about a product.

Something that is not always obvious at first glance, can really add additional interest and fun to the product.

A company called “**Take Another Look**” wish to develop a new range of creative products to be sold in their high street shops.

The products could be to entertain toddlers, children, teenagers or adults.

The purpose of these products could be any of the following:

- be challenging;
- be humorous;
- have a surprise element; or
- have a secretive element.

You are to design and model a product for the company “Take Another Look”.

You should base your designs around:

- A theme e.g. a sport, hobby, other interest.
- an occasion e.g. a birthday, a wedding, a religious festival etc.; or
- an environment e.g. the seaside, the moon, the zoo etc.

YOU MUST ALSO CONSIDER THE FOLLOWING SUPPLEMENTARY INFORMATION. MARKS WILL BE AWARDED ACCORDINGLY.

- ***A ‘Renewable’ energy source such as an elastic band should be used to power the design.***

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