

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
4	
5	
6	
TOTAL	



General Certificate of Secondary Education  
June 2012

# Design and Technology: 45451 Food Technology

Unit 1 Written Paper

Wednesday 16 May 2012 1.30 pm to 3.30 pm

**For this paper you must have:**

- a black pen, a pencil, a ruler, an eraser, a pencil sharpener and coloured pencils.

**Time allowed**

- 2 hours

**Instructions**

- Use black ink or black ball-point pen. Use pencil and coloured pencils only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this answer book. Cross through any work you do not want to be marked.

**Information**

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 120.
- The questions in Section A relate to the context referred to in the Preliminary Material that was previously issued.
- You are reminded of the need for good English and clear presentation in your answers. Quality of Written Communication will be assessed in Question 3 (c).



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**45451**

## Section A

You should answer this question in the spaces provided.

Section A is about designing new products.

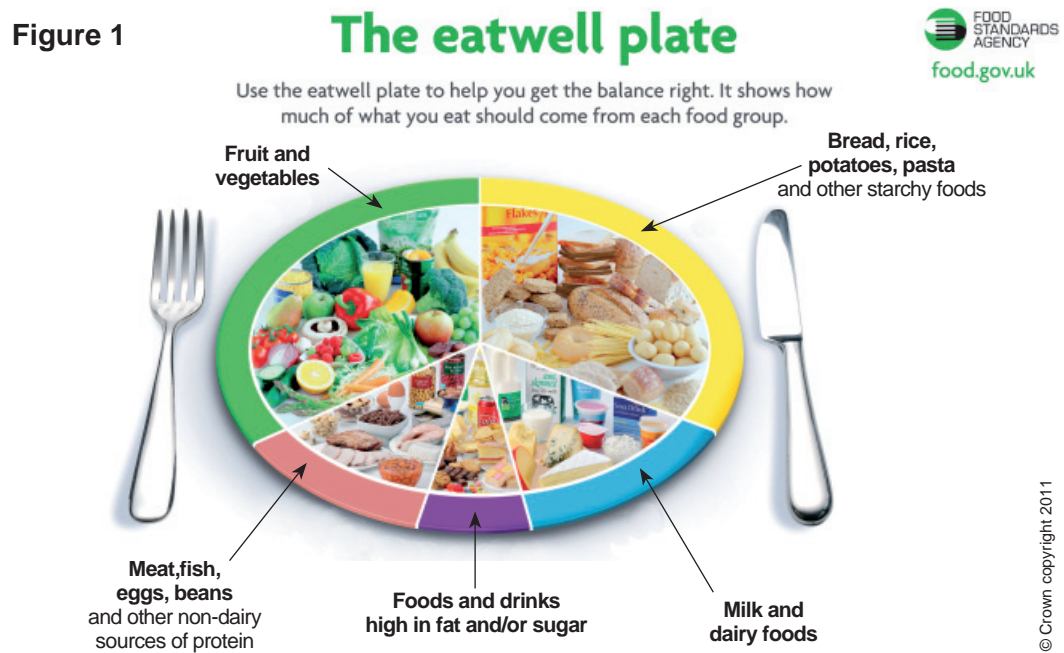
You should spend about 30 minutes on this question.

**Research context:** The eatwell plate.

**Design theme:** Pasta products.

1 (a) Look at **Figure 1** and **Figure 2** before answering the questions.

**Figure 1:** The eatwell plate shows people the proportions of each kind of food they should eat.



**Figure 2** shows a design idea for a pasta salad.

**Pasta salad**

Ingredients:

- Pasta shapes
- Diced cucumber
- Mozzarella cheese
- Garlic croutons
- Chopped tomatoes
- Salad leaves
- Creamy herb dressing



1 (a) (i) Identify how the pasta salad meets the advice of the eatwell plate.

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(2 marks)

1 (a) (ii) Identify how the pasta salad does **not** meet the advice of the eatwell plate.

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(2 marks)

1 (a) (iii) Explain **two** ways to make the pasta salad a healthier option.

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(4 marks)

Question 1 continues on the next page

Turn over ►



**1 (b) (i)** A test kitchen is developing a range of main meal pasta products.

On the next page, use notes and/or sketches to show **two** different design ideas for main meal pasta products that meet the following design criteria.

The design ideas should:

- contain pasta
- be suitable for serving as a hot main meal
- meet the advice of the eatwell plate
- contain a homemade sauce.

You **must** explain how your ideas meet each of the design criteria.



Design idea 1

Product name:

Design idea 2

Product name:

(10 marks)

Question 1 continues on the next page

Turn over ►



**1 (b) (ii)** Tick the box below to show which of your design ideas you will choose to develop.

Design idea 1

Design idea 2

Using the layout below, complete a plan for making your chosen design idea in the test kitchen.

<b>Main stages of making</b>	<b>Hygiene, safety and quality control checks</b>

(12 marks)

30
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**Section B**

You should answer **all** questions in this section in the spaces provided.

Question 2 is about finding out about existing food products.

You should spend about 20 minutes on this question.

**2 (a) (i)** Why is it important to research existing food products before starting to design new products?

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*(3 marks)*

**2 (a) (ii)** Describe ways in which a computer could be used to research existing food products.

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*(3 marks)*

**Question 2 continues on the next page**

**Turn over ►**



**2 (b)** Consumers use information from the labels of food products when deciding what to buy.

**2 (b) (i)** Here are some of the ingredients used in a can of leek and potato soup.

15 g butter, 50 g onions, 175 g leeks, 100 g potatoes

Complete the ingredient list below by putting the ingredients shown above in the correct order.

<p>Ingredients:</p> <p>300ml water .....</p> <p>..... stock cube.</p>
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(2 marks)

**2 (b) (ii)** 400 g **e** is shown on a soup label. What does this mean?

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(2 marks)

**2 (b) (iii)** Why is it important that the manufacturer's name and address is on the label?

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(2 marks)





**2 (b) (iv)** Explain the following terms used on food labels.

'Best before'

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'Organic'

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(4 marks)

**Question 2 continues on the next page**

**Turn over ►**



**2 (b) (v)** The storage instructions for canned soup state:

Pour unused soup into a non-metallic container.  
Store in a cool, dry place.  
Once opened eat within 2 days.

Explain the reasons for this advice.

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(4 marks)

20





**3 (b)** Describe ways to make sure that sensory testing is fair.

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*(6 marks)*





Question 4 is about producing quality products.

You should spend about 20 minutes on this question.

**4 (a)** Explain how the following equipment may help in the making of good quality bread products.

**4 (a) (i)** Non-stick loaf tins

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*(3 marks)*

**4 (a) (ii)** A breadmaking machine

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*(4 marks)*

**4 (b)** Describe ways of adding a quality finish to a batch of fruit loaves.

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*(4 marks)*



**4 (c)** Discuss why preservatives may be used to help produce quality food products.  
Give examples to support your answer.

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(5 marks)

**4 (d)** Explain why food manufacturers use modified starches.

Include **two** examples in your answer of food products where modified starch may be used.

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(4 marks)

20

Turn over ►



Question 5 is about consumer choices.

You should spend about 20 minutes on this question.

**5 (a)** Takeaway foods are popular with many consumers.

**5 (a) (i)** Explain why consumers choose to buy takeaway products instead of making the food themselves.

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*(4 marks)*

**5 (a) (ii)** Explain some of the disadvantages of takeaway foods.

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*(4 marks)*





**5 (b)** The table below shows the nutritional value of a 100g serving of different energy foods.

Food	Calories	Protein	Carbohydrate	Fat	Fibre
Savoury rice	180 kcal	5.5 g	28.2 g	5.0 g	1.2 g
Jacket potato	93 kcal	2.0 g	21.6 g	0.1 g	1.5 g
Whole wheat pasta	322 kcal	12.5 g	62.15 g	2.5 g	10.0 g

Use information from the table to help you answer the following questions.

**5 (b) (i)** Which product will provide:  
 the lowest energy per 100g? .....  
 the highest fibre content per 100g? .....  
(2 marks)

**5 (b) (ii)** Why is whole wheat pasta a good choice for consumers with an active and healthy lifestyle?  
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(4 marks)

**Question 5 continues on the next page**

**Turn over ►**



**5 (c)** Many consumers choose jacket potatoes because they are low in fat.

State **two** ingredients that could be used together for a low fat and high protein filling for a jacket potato.

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Give reasons for your choice of ingredients.

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(4 marks)

**5 (d)** Explain how manufacturers could reduce the calorie content of savoury rice products.

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(2 marks)

20





**There are no questions printed on this page**

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