

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

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



General Certificate of Secondary Education
June 2015

Design and Technology Short Course

45751

Unit 1 Written Paper

Tuesday 19 May 2015 9.00 am to 10.00 am

For this paper you must have:

- a black pen, a pencil, a ruler, an eraser, a pencil sharpener.

Time allowed

- 1 hour

Instructions

- Use black ink or black ball-point pen. Use pencil 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 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 60.
- 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(b).



J U N 1 5 4 5 7 5 1 0 1

Answer **all** questions in the spaces provided.

Question 1 is about materials and components.

You are advised to spend about 10 minutes on this question.

1 (a) Name the primary source of the materials shown in the table below.

An example has been completed for you.

[5 marks]

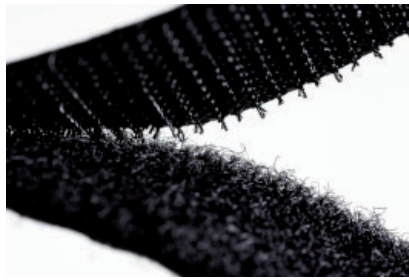
Material from source	Primary source of material
Acrylic	Crude oil
Flour	
Pine	
Leather	
Fleece material	
Iron	



1 (b) Three standard components are shown below.



Bolognese sauce



Hook and loop (Velcro)



Screw hook

1 (b) (i) Choose **one** standard component from those shown.

Give an example of a product that uses this component.

[1 mark]

Chosen standard component

Product

1 (b) (ii) Name another standard component that could be used in the product you have named above.

[1 mark]

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.....

Question 1 continues on the next page

Turn over ▶



1 (c) Give **two** advantages and **two** disadvantages of using standard components.

[4 marks]

Advantage 1

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Advantage 2

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Disadvantage 1

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.....

Disadvantage 2

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.....

11



Turn over for the next question

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

Turn over ▶



0 5

Question 2 is about designing and making products.

You are advised to spend about 25 minutes on this question.

- 2 A new restaurant is going to be opened with the theme of the United States of America (USA).

You will be asked to design a product for the restaurant using the images below for inspiration.



2 (a) You should select **one** of the following products to design for the USA theme restaurant.

A Menu card holder **B** Apron with pockets for staff use **C** Luxury cup cake

Design the product you have selected in the space below. Use the images on the opposite page for inspiration.

Marks will be awarded for:

- the creative use of USA themed images
- adding notes to your design to explain particular features.

You will be asked to describe in more detail how you would make this product later in this question.

[8 marks]

Circle the product you have chosen

A Menu card holder **B** Apron with pockets for staff use **C** Luxury cup cake

Turn over ▶



2 (b) (i) Produce a step by step plan to explain how you could make your idea in part (a).

Include in your answer the information detailed below so that someone else could make your design.

- Dimensions, size or quantities. **[2 marks]**
- Materials or ingredients. **[2 marks]**
- Processes for making, assembling and finishing. **[6 marks]**
- Names of tools and equipment to be used. **[3 marks]**
- Quality control checks. **[2 marks]**

Tools and equipment used



2 (b) (ii) Evaluate how well your design reflects the USA theme.

[2 marks]

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25

Turn over for the next question

Turn over ▶



Question 3 is about working safely.

You are advised to spend about 10 minutes on this question.

3 The pictures show three commonly used pieces of equipment.



Sewing machine



Power drill



Electric whisk

3 (a) Choose **one** of the pieces of equipment shown above.

Identify **two** possible dangers when working with the piece of equipment.

[2 marks]

Piece of equipment chosen

Danger 1

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.....

Danger 2

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3 (b) Describe the safety precautions you would take when setting up and using the equipment you have chosen in 3(a).

Quality of Written Communication will be assessed in this answer.

[6 marks]

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3 (c) Suggest a way that the piece of equipment could be modified or changed to make it safer to use in a school environment.

[2 marks]

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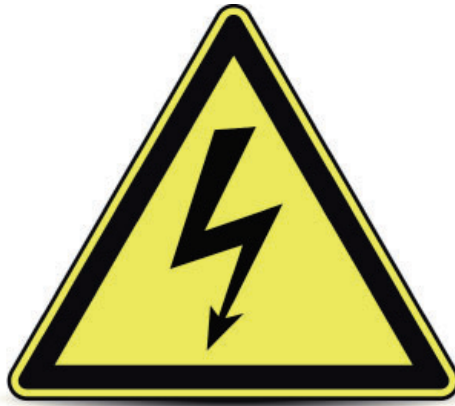
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Turn over ►



- 3 (d)** The following symbol might be found in school. Tick the correct meaning for the symbol.

[1 mark]



Rechargeable battery

Evacuation route

Electrical hazard

Lightning risk



Question 4 is about product analysis

You should spend about 10 minutes on this question

4 Shown below are two examples of vegetable peelers.

Peeler A



Peeler B



4 (a) Name three specific materials that could be used to make vegetable peelers.

[3 marks]

Material 1

Material 2

Material 3

4 (b) Which vegetable peeler do you think is better? Give your reasons.

[4 marks]

Chosen peeler

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Turn over ▶



4 (c) How does the designer of a vegetable peeler decide on the size of the handle?

[2 marks]

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4 (d) What other design features need to be considered when designing a vegetable peeler?

[4 marks]

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END OF QUESTIONS



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