

Friday 13 January 2012 – Afternoon

GCSE DESIGN AND TECHNOLOGY Product Design

A554 Designing Influences

Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

None

Duration: 1 hour 30 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions in Section A **and** B.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- **Section A** is worth **30 marks**. You are advised to spend no more than 45 minutes on it.
- **Section B** is worth **30 marks**. You are advised to spend no more than 45 minutes on it.
- You will need to select from the tables in **Section B** when answering question 4 and question 5 of this paper. ‘Trend setter’ and ‘Iconic product’ must be linked to ‘Eras and movements’.
- Your Quality of Written Communication will be assessed in questions marked with an asterisk (*).
- This document consists of **16** pages. Any blank pages are indicated.

2
SECTION A

You are advised to spend 45 minutes on this section.

1 Fig. 1 shows a child using a pogo stick.

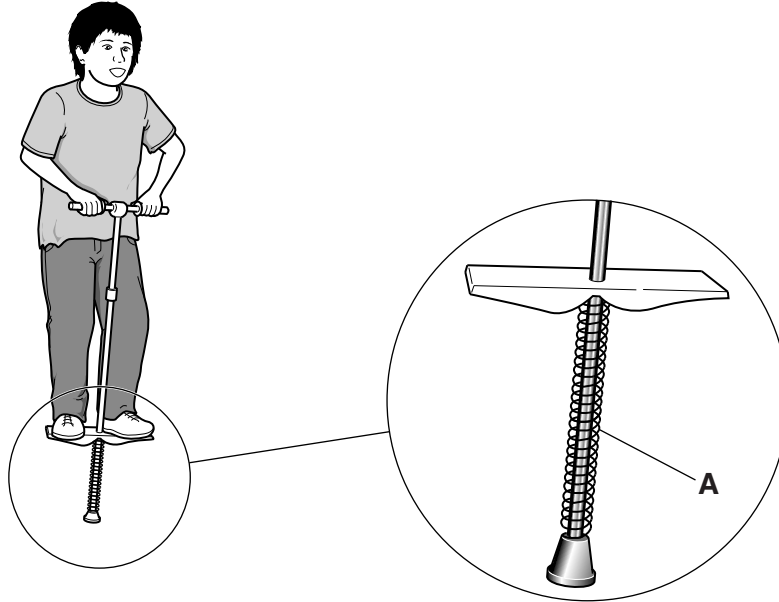


Fig. 1

(a) Give **three** design features of a pogo stick.

- Feature 1
- Feature 2
- Feature 3 [3]

(b) (i) Identify the component labelled **A** in Fig. 1 above.

..... [1]

(ii) State **one** force acting on component **A** when the pogo stick is in use.

..... [1]

(iii) Describe a design modification to the pogo stick that would make it safer to use.

.....
.....
..... [2]

2 Fig. 2 shows a pair of sunglasses.

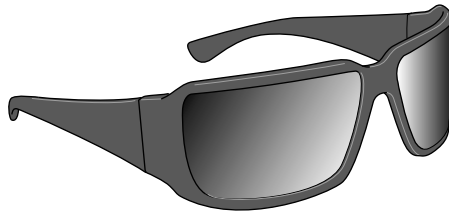


Fig. 2

(a) Give **three** anthropometric measurements considered when designing sunglasses.

1

2

3 [3]

(b) Give **two** reasons, why sunglasses have become popular in recent years.

Reason 1

.....

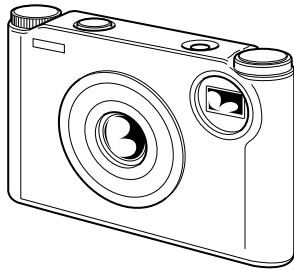
..... [2]

Reason 2

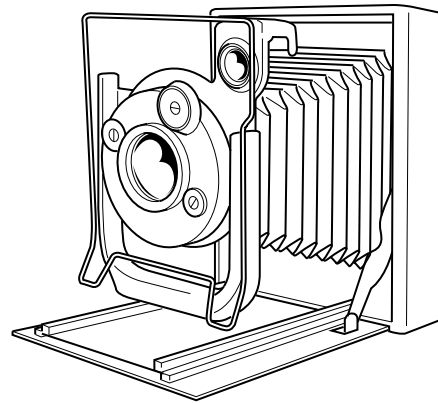
.....

..... [2]

3 Fig. 3 shows a modern digital camera and a camera from the 1920s.



Modern digital camera

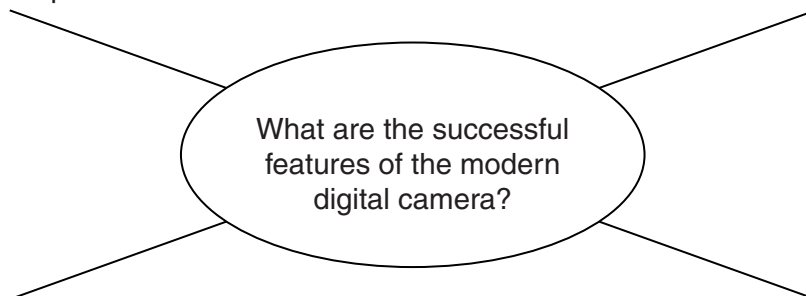


Camera from the 1920s

Fig. 3

(a) Complete the diagram below by adding a further **three** successful features of the modern digital camera.

The modern digital camera is very slim and fits in a pocket.



[3]

(b) Explain why **two** of the features you have identified have made the modern digital camera successful.

An example has been done for you.

Point 1: The modern digital camera is very slim and fits in a pocket.

Explanation: The development of miniature electronic components has enabled manufacturers to produce pocket-sized cameras.

Point 2

Explanation

.....
.....
.....
..... [2]

Point 3

Explanation

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.....
..... [2]

(c) Explain the effects the introduction of computerised devices has had on designers and makers.

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..... [3]

[Total: 10]

SECTION B

You are advised to spend 45 minutes on this section.

This question draws upon the research you carried out as part of your examination preparation.

4 The table below shows the eras, trend setters and iconic products for this examination.

Please indicate using a tick [✓] the era or movement you have studied.

Era or Movement	Trend setter	Iconic product	✓
1980s	The Memphis Group	Carlton Room divider	
1970s	Abba	Lycra stage costumes	
Twentieth century	Confectionary packaging	Kit Kat	
1970–1990	Lasers	Bar code reader	
1950s and 60s	Ice cream	Knickerbocker glory	

(a)* Trend setter chosen

Discuss the importance of this trend setter in the context of modern design.

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..... [6]

(b) Iconic product chosen

Give **two** reasons why the product you have chosen has been so influential.
Make specific reference to innovation and function.

Reason 1
.....
.....
..... [2]

Reason 2
.....
.....
..... [2]

[Total: 10]

5 This question draws upon the research you carried out as part of your examination preparation.

You will need to:

- Write a specification
- Produce a range of initial ideas
- Develop **one** idea
- Give details of the final proposal

Five different design needs are given below.

Please indicate using a tick [✓] **one** design need you are going to consider.

design need	✓
A coffee table in the Memphis Group style.	
Swimwear for the British Olympic swimming team.	
Packaging for a new range of chocolate covered mints. Each mint is 30mm in diameter and 5 mm thick. The packaging must contain 10 mints.	
A device for identifying the levelness of a surface that incorporates a laser.	
An Olympic Games themed ice cream dessert.	

(a) Identify **four** important design specification points for your chosen design need. These must specify key design requirements other than those detailed in the design need above.

1

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2

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3

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4

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[4]

(b) Use sketches and notes to produce a range of initial ideas that meet your specification.

[5]

- (c) Use sketches and notes to develop **one** of your initial ideas to meet the original design need.

- (d) Give details of your final proposal showing how it meets the four design specification points you identified in part (a) of this question.

[6]

[Total: 20]

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