

MARK SCHEME for the May/June 2013 series

0445 DESIGN AND TECHNOLOGY

0445/12

Paper 1 (Design), maximum raw mark 50

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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1	(a)	Accept any four additional suitable points – easy to clean, resists water, appropriate height/position, boots easy to access/remove, stable in use, etc.	(1 × 4)	[4]
	(b)	Accept drawings of any two suitable methods – inverted on rods, in vertical/horizontal boxes, on shelves, on slats, in clips, in slots, etc.	(2 × 2)	[4]
	(c)	Any suitable ideas. At least three different ideas for maximum marks. Pro rata if fewer.		
		Communication		
		Simple drawings displaying a low standard or limited range of techniques.	(0–2)	
		Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation, etc.	(3–4)	
		High quality drawings using a wide range of techniques with clear annotation and detail.	(5–6)	
		Suitability		
		Simplistic designs showing outlines only.	(0–2)	
		Rather more detail, sensible solutions that could work	(3–4)	
		Accurate solutions, good fitness for purpose, detailed construction.	(5–6)	[12]
	(d)	Evaluation of each of the ideas. At least 3 evaluations up to 2 marks each.	(0–6)	
		Selection and justification. (1+1)	(2)	[8]
	(e)	Quality of drawing		
		Poor line quality, proportions, little detail.	(1)	
		Good line work, use of colour, proportions, some detail.	(2–3)	
		High standard throughout with a range of techniques that show clearly all detail.	(4)	
		Dimensions 2 or 3 overall dimensions only – 1		
		Additional detail dimensions – 2	(2)	
		Construction details		
		A simplistic approach showing little or no detail of construction to be used.	(0–2)	
		Most constructional detail may be obvious from overall views or with some annotation.	(3–4)	
		All constructional detail will be clear with good annotation and additional detail drawings as necessary.	(5–6)	[12]
	(f)	Suitable specific materials stated.	(2)	
		Appropriate reasons for choice.	(2)	[4]

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- (g) Suitable method stated/described. (1)
 Good detailed description of: processes; (3)
 tools. (2) [6]

[Total: 50]

- 2 (a) Accept any **four** additional suitable points – appealing to children, colourful, interesting topic, will not tear/damage, moved by child, etc. (1 × 4) [4]

- (b) Accept any **two** forms of movement – pop-up, rotating disc, fold out, slider, hinge, paper spring, etc. (2 × 2) [4]

- (c) Any suitable ideas. At least **three different** ideas for maximum marks. Pro rata if fewer.
- Communication**
 Simple drawings displaying a low standard or limited range of techniques. (0–2)
 Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation, etc. (3–4)
 High quality drawings using a wide range of techniques with clear annotation and detail. (5–6)

- Suitability**
 Simplistic designs showing outlines only. (0–2)
 Rather more detail, sensible solutions that could work. (3–4)
 Accurate solutions, good fitness for purpose, detailed construction. (5–6) [12]

- (d) Evaluation of each of the ideas. At least 3 evaluations up to 2 marks each. (0–6)
- Selection and justification. (1+1) (2) [8]

- (e) **Quality of drawing**
 Poor line quality, proportions, little detail. (1)
 Good line work, use of colour, proportions, some detail. (2–3)
 High standard throughout with a range of techniques that show clearly all detail. (4)
- Dimensions** 2 or 3 overall dimensions only – 1
 Additional detail dimensions – 2 (2)
- Construction details**
 A simplistic approach showing little or no detail of construction to be used. (0–2)
 Most constructional detail may be obvious from overall views or with some annotation. (3–4)
 All constructional detail will be clear with good annotation and additional detail drawings as necessary. (5–6) [12]

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- (f) Suitable **specific** materials stated. (2)
- Appropriate reasons for choice. (2) [4]
- (g) Suitable method stated/described. (1)
- Good detailed description of: processes; (3)
- tools. (2) [6]

[Total: 50]

- 3 (a) Accept any **four** additional suitable points – hygienic, easily accessible, easy to clean, fits in with garden surroundings, colourful, anchored to ground, etc. (1 × 4) [4]
- (b) Accept any **two** safety considerations – falling from height, trapped fingers/limbs, slipping, location in seats, sharp edges, etc. (2 × 2) [4]
- (c) Any suitable ideas. At least **three different** ideas for maximum marks. Pro rata if fewer.
- Communication**
- Simple drawings displaying a low standard or limited range of techniques. (0–2)
- Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation, etc. (3–4)
- High quality drawings using a wide range of techniques with clear annotation and detail. (5–6)
- Suitability**
- Simplistic designs showing outlines only. (0–2)
- Rather more detail, sensible solutions that could work. (3–4)
- Accurate solutions, good fitness for purpose, detailed construction. (5–6) [12]
- (d) Evaluation of each of the ideas. At least 3 evaluations up to 2 marks each. (0–6)
- Selection and justification. (1+1) (2) [8]

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(e) Quality of drawing		
Poor line quality, proportions, little detail.	(1)	
Good line work, use of colour, proportions, some detail.	(2–3)	
High standard throughout with a range of techniques that show clearly all detail.	(4)	
Dimensions 2 or 3 overall dimensions only – 1		
Additional detail dimensions – 2	(2)	
Construction details		
A simplistic approach showing little or no detail of construction to be used.	(0–2)	
Most constructional detail may be obvious from overall views or with some annotation.	(3–4)	
All constructional detail will be clear with good annotation and additional detail drawings as necessary.	(5–6)	[12]
(f) Suitable specific materials stated.	(2)	
Appropriate reasons for choice.	(2)	[4]
(g) Suitable method stated/described.	(1)	
Good detailed description of: processes;	(3)	
tools.	(2)	[6]
		[Total: 50]