

**MARK SCHEME for the October/November 2012 series**

**0445 DESIGN AND TECHNOLOGY**

**0445/11**

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 October/November 2012 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

Page 2	Mark Scheme	Syllabus	
	IGCSE – October/November 2012	0445	

1 (a)	Accept any <b>four</b> additional suitable points – easy to open, cannot catch fingers, large working area, correct height for sitting, matches bedroom, etc.	(1x4)	
(b)	Accept drawings of any <b>two</b> suitable folding methods – hinges, screw/bolt pivots, brackets, rods, pins, sliders, etc.	(2x2)	[4]
(c)	Any suitable ideas. At least <b>three different</b> ideas for maximum marks. Pro rata if fewer.		
	<b>Communication</b>		
	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)	
	<b>Suitability</b>		
	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)	<b>Quality of drawing</b>		
	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)	
	<b>Dimensions</b>		
	2 or 3 overall dimensions only (1)		
	Additional detail dimensions (2)	(2)	
	<b>Construction details</b>		
	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 <b>specific</b> materials stated. (1+1)	(2)	
	Appropriate reasons for choice. (1+1)	(2)	[4]
(g)	Suitable method described.	(1)	
	Good detailed description of: processes	(3)	
	tools.	(2)	[6]
			<b>[Total: 50]</b>

Page 3	Mark Scheme	Syllabus	
	IGCSE – October/November 2012	0445	

- 2 (a) Accept any **four** additional suitable points – appeal to pupils, compact, stable on desk, team colours, football theme, list items to hold, etc. (1x4)
- (b) Accept drawings of any **two** joining methods - glue tabs, slide-in corner sections, slots, Velcro, staples, tape, etc. (2x2) [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. (1+1) (2)
- Appropriate reasons for choice. (1+1) (2) [4]
- (g) Suitable method described. (1)
- Good detailed description of: processes (3)
- tools. (2) [6]

[Total: 50]

Page 4	Mark Scheme	Syllabus	
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- 3 (a) Accept any **four** additional suitable points – clearly visible to others, easy to fit to bicycle, safe to operate, lightweight, weather proof, etc. (1x4)
- (b) Accept any **one** mechanical device and **one** electronic system – moving/semaphore arm, sliding pointer, flashing lights, moving LEDs, etc. (2x2) [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. (1+1) (2)
- Appropriate reasons for choice. (1+1) (2) [4]
- (g) Suitable method described. (1)
- Good detailed description of: processes (3)
- tools. (2) [6]

[Total: 50]