

**MARK SCHEME for the October/November 2009 question paper
for the guidance of teachers**

0445 DESIGN AND TECHNOLOGY

0445/01

Paper 1 (Common Core), 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 must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the October/November 2009 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

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| Page 2 | Mark Scheme: Teachers' version | Syllabus |
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- 1 (a) Accept any **four** suitable points – stable in use, easy to move, easy access, qualified safety, attract attention, etc. (no repeats of question) (1 × 4)
- (b) Accept drawings of any **two** suitable joints – dovetail, finger, butt, lap, screwed, nailed, hinges, etc. (2 × 2) [4]
- (c) Any suitable ideas. At least 3 **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]
- (g) Suitable method stated (1)
- Good detailed description of method, including:
- Processes (3)
- Tools (2) [6]

[Total: 50]

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- 2 (a) Accept any **four** suitable points – stable when opened, lightweight, easy to carry, attract attention, colourful, made from renewable material etc. (no repeats of question) (1 × 4) [4]
- (b) Accept drawings of any **two** suitable joining methods – ‘velcro’, tabs/slots, clips, elastic, hinges, etc. (2 × 2) [4]
- (c) Any suitable ideas. At least 3 **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]
- (g) Suitable method stated (1)
- Good detailed description of method, including:
- Processes (3)
- Tools (2) [6]

[Total: 50]

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- 3 (a) Accept any **four** suitable points – lightweight, easy to clean, easy to empty, insects/animals cannot escape, cannot damage insects, etc. (no repeats of question) (1 × 4) [4]
- (b) Accept any **two** remote control systems – radio, infra red, bowden cable, linkages, string, etc. (2 × 2) [4]
- (c) Any suitable ideas. At least 3 **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 (2)
- 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 (1)
- Good detailed description of method, including:
- Processes (3)
- Tools (2) [6]

[Total: 50]