## MARK SCHEME for the October/November 2015 series

## 0445 DESIGN AND TECHNOLOGY

0445/13 Paper 1 (Product 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 2015 series for most Cambridge IGCSE ${ }^{\circledR}$, Cambridge International A and AS Level components and some Cambridge O Level components.

| Page 2 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | Cambridge IGCSE - October/November 2015 | 0445 | 13 |

1 (a) Accept any four additional suitable points - lightweight, easy to transport/carry, easy access to bats/balls, balls cannot get squashed; surface of bats protected, comfortable to carry, etc.

$$
1 \times 4
$$

(b) Accept drawings of any two ways of locating balls - in recess, holes, clips, slot, tube, etc.

$$
\begin{equation*}
2 \times 2 \tag{4}
\end{equation*}
$$

2 (a) Accept any four additional suitable points - attractive colour/shape/layout, simple wording, popular sport, low energy consumption, weather proof if outside, etc.
$1 \times 4$
(b) Accept drawings of any two movement methods - sliders, hinged portion, any form of rotation, cams, cranks, etc.
$2 \times 2$

3 (a) Accept any four additional suitable points - does not hurt golfer when returned, weather resistant, minimal power use, quiet in use, does not damage ball, can be adjusted for distance, etc.
(b) Accept drawings of any two return methods - fired by spring/elastic/arm, tube, chute, belt/chain, etc.

## Questions 1, 2 and 3

(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.
High quality drawings using a wide range of techniques with clear annotation and detail

## Suitability

Simplistic designs showing outlines only 0-2
Rather more detail, sensible solutions that could work 3-4
Accurate solutions, good fitness for purpose, construction detail 5-6
$\begin{array}{lr}\text { (d) Evaluation of each of the ideas. At least three evaluations up to } 2 \text { marks each } & 0-6 \\ \text { Selection and justification (1+1) } & 2\end{array}$

| Page 3 | Mark Scheme | Syllabus | Paper |
| :---: | :---: | :---: | :---: |
|  | Cambridge IGCSE - October/November 2015 | 0445 | 13 |

(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 - 1Additional detail dimensions - 12
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 annotation3-4All constructional detail will be clear with good annotation and additional detail drawings asnecessary5-6 [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 ..... 0-3
tools ..... 0-2

