

CAMBRIDGE
INTERNATIONAL EXAMINATIONS

NOVEMBER 2003

INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK: 40

SYLLABUS/COMPONENT: 0610/05

**BIOLOGY
(Practical)**



Page 1	Mark Scheme	Syllabus	Paper
	IGCSE EXAMINATIONS – NOVEMBER 2003	0610	5

- 1 (a)** × *lose these marking points if no table*
- × use of ruled lines for columns and rows ;
 - × time (table heading) ;
 - × temperature (table heading) ;
- record of units temp and min/clock times ;
 readings taken at 2 min intervals ; (*6 readings in total*)
 records for both A and B ; **max 5**
- (b)** ✓ *only credit these marking points if bar chart drawn*
 × *lose these marking points if axes the wrong way round AND award max 4*
- ✓ × orientation of axes ; (*time horizontal, temp vertical*)
 - ✓ labels for axes including units ; (*A*) *clock times*
 - × plotting data using suitable scale ; *c. half the paper min., linear scale, sensible scale, grid capable of plotting their results*
- plotting data for A (points visible, no obvious error, not (0,0)) ;
 plotting data for B (points visible, no obvious error, not (0,0)) ;
- clear lines ; *correctly drawn, not extending beyond data plots*
 each curve identified/use of key ; **max 5**
- (c) (i)** temperature decreases ;
 comment on decrease ; **2**
- (ii)** temp. of A decreases more than B/converse ;
 more heat lost from A/converse ;
 B remains almost the same/use of comparative figs./
 comment on gradient/comment on rate ; **max 2**
- (iii)** animal at the centre of a group will retain, heat/warmth ;
 solitary animal will lose more heat ;
 crowding is better to retain heat (in cold conditions) ;
 ref. to surface area (of individual v. group) ; **max 2**
- (iv)** suggestion ;
 explanation/detail ;
 suggestion ;
 explanation/detail ;
Credit any reasonable suggestion such as ...
 increase time/change starting temperature/
 change the no. of tubes/repeats/
 cover tubes with different material/
 other suitable suggestion **4**

[Total : 20]

Page 2	Mark Scheme	Syllabus	Paper
	IGCSE EXAMINATIONS – NOVEMBER 2003	0610	5

- 2 (a) (i) Drawing ~ clear outline W1 ;
at least 5 cm in one direction ;
3 body sections shown ;
- Labels ~ legs ; (*should be 6/3 pairs*)
antennae/compound eyes ; (*should be 2 / 1 pair*)
head/thorax/abdomen ; 6
- (ii) length of drawing measured correctly (± 2 mm) ; *with units*
clear measurement line shown ;
correct calculation of “drawing length \div specimen length” ;
to 1dp
(allow .25 or .75 exactly)
no units 3
- (b) *Credit any reasonable suggestion together with reason, such as*
cover top with vegetation ;
camouflage ;
make sure that container is deep enough ;
to prevent insects from escaping ;
put water in container ;
kill insects/stop insects escaping ;
smooth/slippery side ;
stop insects escaping ;
bait ;
to attract insects ;
other valid suggestion ; ; max 4
- (c) (i) **W1** thick/tough/sturdy/shape ref. ;
W2 thin / delicate / shape ref. ; 2
- W1** biting/chewing/cutting/holding/grasping/ etc. ;
W2 sucking/equivalent ; 2
- (ii) *Credit any suitable comparison, such as ...*
W1 has no outstretched wings and W2 has outstretched wings ;
W1 has hard casing and W2 does not ;
W2 has longer antennae ;
W2 has more delicate legs ;
other suitable comparison ; ; ; max 3

[Total : 20]