

NOVEMBER 2003

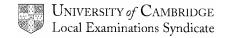
INTERNATIONAL GCSE

MARK SCHEME

MAXIMUM MARK: 40

SYLLABUS/COMPONENT: 0610/05

BIOLOGY (Practical)



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1

```
(a)
       x
             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
        \checkmark × 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;
                                                                                  2
         comment on decrease;
    (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
         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]
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Page 2	Mark Scheme	Syllabus	Paper
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(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 (\pm 2 mm); with units
          clear measurement line shown;
          correct calculation of "drawing length + specimen length";
                                                               (allow .25 or .75 <u>exactly</u>)
                                                                no units
(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;
                                                                           max 4
          other valid suggestion;;
          W1
(c) (i)
               thick/tough/sturdy/shape ref.;
          W2
                                                                                2
               thin / delicate / shape ref.;
          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
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[Total: 20]