

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
International General Certificate of Secondary Education

## **MARK SCHEME for the October/November 2013 series**

### **0460 GEOGRAPHY**

**0460/41**

Paper 4 (Alternative to Coursework), maximum raw mark 60

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 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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- 1 (a) (i) Must be comparative  
 Homemade rain / Fig. 1 gauge is:  
 Simpler  
 Not as accurate to use  
 Plastic rather than metal / glass  
 Re-cycled material / old bottle compared to proper equipment  
 Cheaper  
 Wider / shorter  
 Separate ruler not measuring cylinder  
 Cut off top from bottle compared to proper funnel  
 Transparent not opaque measuring bottle 2 @ 1 [2]
- (ii) Put the rain gauge in soil / in a field / away from buildings / away from trees / on grass / not on concrete  
 Leave for 24 hours (max) / wait a certain or set time / check level at the same time each day  
 Use **ruler** to measure water level / measure amount of rain  
 Empty container and replace [3]
- (b) (i) Bigger sample of results / more results / more reliable  
 Avoid student error / anomaly  
 Can calculate average [2]
- (ii)  $96/6$  OR  $14 + 16 + 16 + 17 + 15 + 13 / 6$   
 $= 16$  [2]
- (iii) Days 8, 4, 14 All correct for 1 mark [1]
- (iv) Figures plotted on Fig. 4  
 Circle at 14 mm on day 13; square at 2.8 mm on day 4 – need correct symbol  
2 @ 1 [2]
- (v) Yes / hypothesis is **correct** / less rainfall reaches ground as density of vegetation cover increases – 1 mark reserve
- Least rainfall **reaches ground** OR lower reading in coniferous **woodland** / densest vegetation cover / wood with vegetation cover all year / higher readings in deciduous than coniferous woodland  
 More rainfall **reaches ground** OR higher reading on **bare ground** / no vegetation cover / less rain reaches ground in deciduous woodland than bare ground
- 1 mark **max** for paired data comparing two vegetation types e.g. on day 14–2.9mm in coniferous woodland and 17.8mm on bare ground average for 14 days: 1.6mm in coniferous woodland, 9.9mm in deciduous woodland, 11.6 / 11.7mm on bare ground (any 2 figures for 1 mark)  
 lowest in coniferous woodland = 1.6mm and lowest in bare ground = 12.8mm
- Hypothesis conclusion is incorrect / partly correct no credit [4]

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- (vi) **Amount:** Where there is most vegetation cover / coniferous woodland more rainfall / water is intercepted / stops rain / water reaching ground / catches more rain / where there is no vegetation cover / on exposed bare ground there is no interception  
**Spacing:** Widely spaced vegetation lets more rain through / denser vegetation prevents rain getting through  
**Seasonality:** Deciduous trees / some trees loose leaves in winter but coniferous / others don't [2]
- (c) (i) Primary data: using a barometer & measuring the speed of river flow  
 Secondary data: getting information from a newspaper report and researching on the internet  
 All 4 correct = 2 marks  
 2 or 3 correct = 1 mark [2]
- (ii) Deciduous woodland [1]
- (iii) Hypothesis is **correct** for deciduous woodland  
 1 mark reserve  
 13.9mm in winter compared with 7.1 mm in summer / 6.8mm more in winter  
 Hypothesis conclusion is incorrect no credit  
 Hypothesis is **not correct** for coniferous woodland  
 1 mark reserve  
 2.3 mm in both summer and winter  
 Hypothesis conclusion is true / correct no credit [4]
- (iv) Deciduous trees have more leaves in summer / lose leaves in winter  
 Coniferous woodland stays the same all year round / fall off throughout the year **and** are replaced / don't lose leaves in winter  
 Don't need link to interception [2]
- (d) Ideas such as:  
 Measure / record maximum and minimum temperature / read the temperatures (must be plural)  
 Method of measuring by using thermometer – index, magnet to reset – to 2 marks max  
 When readings are made – daily / weekly / monthly NOT hourly  
 Take reading at same time each day / fixed period of time  
 Calculate difference between max and min temperatures [3]

[Total: 30]

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- 2 (a) (i) Comparison may be implied from point of view of Questionnaire 2:  
 Gives a scale of agreement / quantitative answer  
 Includes gender  
 Asks for age group information / age group rather than asking age / does not ask exact age  
 Includes the purpose of the questionnaire / includes where student is from  
 Tick boxes / options to choose from  
 Fewer questions / all questions are relevant
- If answer from point of view of questionnaire 1 there must be direct comparison  
 3 @ 1 [3]
- (ii) Stratified / systematic / random – 1 mark reserve  
 Stratified / Quota sampling –  
 Get an appropriate gender balance;  
 Get an appropriate age balance;  
 Break population down into groups
- Systematic sampling –  
 Ask people at regular intervals / pattern  
 Ask every tenth person
- Random / Opportunity sampling –  
 Ask the next person they meet / ask any person  
 Random number tables to generate order to ask people [3]
- (iii) **Why:** People would be better equipped to answer Q 3 / talk about what they had done / have views about the day's activities  
 Waited until people have finished the day's activities / will not disturb people whilst doing activities  
 (1 mark maximum) [2]
- Disadvantage:** People are tired at end of a busy day / cannot be bothered to answer questions  
 People in a rush to set off for home  
 May not get enough answers and too late to do anything about it  
 Only visitors travelling by car will be surveyed / ignores visitors coming by train or bus or walking  
 (1 mark maximum) [2]
- (b) (i) Pie graph – completion 1 mark (61–80 = 26%; more than 80 = 31%)  
 1 mark for dividing line; 1 mark for shading [2]
- (ii) Many / more / most visitors came from far away / least visitors come from nearby  
 More visitors as distance increases  
 Largest number / travelled more than 80 km  
 Most visitors travelled less than 80 km  
 Smallest number travelled less than 20 km  
 Over half of the visitors travelled more than 60 km [2]

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- (iii) Insert figures  
 Visiting friends: 2 in 20–35 age group and 1 in over 65 age group  
 (both for 1 mark)  
 27 in total of 35–50 column [2]

- (iv) Conclusion that hypothesis is **correct** / **partially correct** – 1 mark reserve

Active / energetic activities (or description) such as / cycling / mountain biking / horse riding / running / jogging are more popular with younger people (under 35)

Passive / relaxing activities (or description) such as / sightseeing / driving / visiting historic buildings / bird watching are more popular with older people (over 50)

Walking is popular with most age groups / visiting historic buildings or friends has fairly even split of young and old, so doesn't support hypothesis

No credit for stats without interpretation

Hypothesis conclusion in incorrect = no credit [4]

- (c) (i) **Only** wanted local people / residents / **not** tourists  
 Not waste time doing the interview / if they don't live in the village they will not know impact [1]

- (ii) Completion of divided bar – dividing lines at 32 and 42 = 1 mark each  
 (if 32 is incorrect, add 10 to line for second line placement)  
 Shading = 1 mark – must be in correct order [3]

- (iii) Many jobs will be seasonal  
 Money spent in the area will drop for 6 months  
 Congestion / overcrowding **between April and September** / in these months / in summer  
 Traffic congestion / noise / litter in summer / in these months [1]

- (iv) Brings money into the area [1]

- (v) **No** Hypothesis mark. Allow any hypothesis choice but credit supporting evidence and data.

e.g. Support hypothesis / hypothesis is correct

Most / many people see problems as very severe / quite severe OR very important / quite important

Most / many people see benefits are slightly important / not important

Credit data which illustrates problems or benefits for 1 mark reserve –  
 data must be related to total or is comparative or proportionate e.g. 30 out of 50 people thought that litter was a very severe problem. [3]

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- (d) Do a traffic survey / count vehicles  
Do it in different streets / areas of village  
Do survey in different seasons  
Do it at different times of day  
Tally method of counting,  
Do for 10 minute period

Compile a questionnaire / interview  
Ask drivers / visitors / pedestrians what are the traffic problems  
Ask questions such as: where is congestion worst – 1 max  
Think about sampling technique

Observe traffic jam and time how long it takes to get through village [3]

**[Total: 30]**