



## **General Certificate of Education**

# **Geography 6031**

## *Specification A*

### **GGA7      Fieldwork Investigation**

# **Mark Scheme**

*2007 examination - June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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# GGA7

## General Guidance for A Level Geography Assistant Examiners

### Quality of Written Communication

As required by QCA, the marking scheme for this unit includes an overall assessment of quality of written communication. There are no discrete marks for the assessment of written communications but where questions are "Levels" marked, written communication will be assessed as one of the criteria within each level.

- Level 1:** Language is basic, descriptions and explanations are over simplified and lack clarity.
- Level 2:** Generally accurate use of language; descriptions and explanations can be easily followed, but are not clearly expressed throughout.
- Level 3:** Accurate and appropriate use of language; descriptions and explanations are expressed with clarity throughout.

### Levels Marking - General Criteria

The following general criteria relate to knowledge, understanding and their critical application and the quality of written communication as outlined in the AQA Geography A subject specification. They are designed to assist examiners in determining into which band the quality of response should be placed, and should be used when assessing the level of response an answer has achieved. It is anticipated that candidates' performances under the various dimensions will be broadly inter-related and the general guidelines for each level are as follows:

- Level 1:** An answer at this level is likely to:
- display a basic understanding of the topic;
  - make one of two points without support of appropriate exemplification or application of principle;
  - demonstrate a simplistic style of writing perhaps lacking close relation to the term of the question and unlikely to communicate complexity of subject matter;
  - lack organisation, relevance and specialist vocabulary;
  - demonstrate deficiencies in legibility, spelling, grammar and punctuation which detract from the clarity of meaning.
- Level 2:** An answer at this level is likely to:
- display a clear understanding of the topic;
  - make one or two points with support of appropriate exemplification and/or application of principle;
  - demonstrate a style of writing which matches the requirements of the question and acknowledges the potential complexity of the subject matter;
  - demonstrate relevance and coherence with appropriate use of specialist vocabulary;
  - demonstrate legibility of text, and qualities of spelling, grammar and punctuation which do not detract from the clarity of meaning.

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**Level 3:** An answer at this level is likely to:

display a detailed understanding of the topic;  
make several points with support of appropriate exemplification and/or application of principle;  
demonstrate a sophisticated style of writing incorporating measured and qualified explanation and comment as required by the question and reflecting awareness of the complexity of subject matter and incompleteness/tentativeness of explanation;  
demonstrate a clear sense of purpose so that the responses are seen to closely relate to the requirements of the question with confident use of specialist vocabulary;  
demonstrate legibility of text, and qualities of spelling, grammar and punctuation which contribute to complete clarity of meaning.

**NB** A perfect answer is not usually required for full marks. Clearly, it will be possible for an individual candidate to demonstrate variable performance between the levels. In such cases, the principle of best-fit should be applied. Experience suggests that the use of exemplars within this mark scheme and the discussion which takes place during the Co-ordination Meeting normally provides sufficient guidance on the use of levels in marking.

### **Annotation of Scripts**

Where an answer is marked using a levels of response scheme the examiner should annotate the script with 'L1', 'L2' or 'L3' at the point where that level is thought to have been reached. The consequent mark should appear in the right hand column. Where an answer fails to achieve Level 1, zero marks should be given.

Where answers do not require levels of response marking, each script should be annotated to show that one tick equals one mark. It is helpful if the tick can be positioned in the part of the answer which is thought to be credit-worthy.

### **General Advice**

It is important to recognise that many of the answers shown within this marking scheme are only exemplars. Where possible, the range of accepted responses is indicated, but because many questions are open-ended in their nature, alternative answers may be equally credit-worthy. The degree of acceptability is clarified through the Standardisation Meeting and subsequently by telephone with the Team Leader as necessary.

1. (a) Each of the figures links in turn to the objectives. The information contained in each figure relates to the various glacial erosion, periglacial and weathering and mass movement process and landforms. The figures provide detail regarding features and processes that might be expected in areas experiencing them. The objectives are specific to the study area, but have used the information in **Figures P1a - c** for example, the first objective relates to the impact of glacial erosion on the landscape and whether this varies within the study area. Thus, the features and processes listed in **Figure P1a** can be considered and their presence (or not) will determine the impact. Similarly, the variations within the study area may have been triggered by the three scales of features considered. Subsequent **Figures 1b** and **1c** consider the processes and landforms, and invite the study of the role these also have had to play.

**Level 1**

Describes the **Figures P1a - c**.  
No reference to own fieldwork.

*(1 mark)***Level 2**

Begins to link description of figures to objectives. This will be clearer at the top end and there will be a realisation that objectives are derived from suggestions.  
Implicit reference to own fieldwork.

*(2-3 marks)***Level 3**

Clear and purposeful use of **Figures P1a - c**.  
Awareness of how these provide ideas for study and more refined approaches, e.g. internal contrasts; relative importance of contributing processes.  
Explicit reference to own fieldwork.

*(4 marks)****(4 marks)***

- (b) Appears to be evidence of features of glacial erosion, e.g. glacial trough of Grisedale and (Glenridding) (1) ribbon lake of Ullswater 3917 (1); the corries - Red Tarn (1), arêtes - Striding Edge (10) Map evidence needed. Also general features - road access - A592 (1); and footpath access - Glenridding to Helvellyn (a).

*(2 marks)*

2. (a) ✓**P4 - Figure P4** (1: 25000) shows greater detail (1) .e.g. rock outcrops identified between 2 paths on ascent to Helvellyn - 3615 (1) which may influence route taken (1) -c.

Distinguishes between rock outdrops and scree (1) with map evidence (1) with reason why significant in context of glacial/periglacial/weathering process (1) -c.

Certain landscape features are shown on **Figure P4**, e.g. waterfalls at 159167 which are not present on **P5** (1) +1 for significance of this - expected feature from tarn - hanging valley (1) -c.

Detail of corrie - e.g. Red Tarn with evidence (1). Easier to measure accurately (1) -c.

May refer to detail of places to stay, e.g. Bunkhouses at 365174 and 168378 (1) with reason why useful - (1) -c.

✓**P5 - Figure P5** (1: 50000) shows the entire area of study in a quarter of the space (1) 14 cm by 10 cms instead of 28 cms x 20 cms. This gives a compact and clear overview of the area (1) -c and allows features to be picked out more easily, e.g. Grisedale and Glenridding valleys and links to corries (1). This map also shows the depth of the water in the lake (1) so that the shape of glacial trough can be determined (1) -c.

✓**C** - Comments indicated above - relate to merits per map or implied contrast - but go beyond just describing usefulness/merits.

Must be valid positive points per map - up to 4 for outline; 2 for comment (c); similarly max 4 per Figure P4 and P5. (Allow up to 4 marks for reference to own fieldwork).

(6 marks)

- (b) Striations are not necessarily perfectly straight (1) whereas a ruler is rigid (1). Ruler does not generally begin at zero but has half a cm extra length that would need to be added on (1). Figures especially for depth are relatively small (1) - this compounded by the fact that ruler does not begin with zero at very end (1). Conversely, some measurements are in excess of 30 cm ruler and indeed 2 - thereby reading accuracy (1).

Given the small-scale nature of the striation - placing the compass over it accurately may be difficult (1) which way to record – eg 60° or 240° (1); conversely - where it is placed - above the middle/side may influence the bearing (1). Indeed cost/quality of compass would have significant implication on accuracy.

Allow up to 2 for reference to own fieldwork.

(4 marks)

- (c) Marks are only available for additional information to that contained in pre-release. If part of this is repeated in content, there is no credit. For example layout transect (1) at right angles to tarn (1) keeping it straight (1); at each metre from the tarn, select 10 samples by bending down and with eyes closed (1); select first 10 items of scree (1) touched by right/left forefinger (1). May consider moving at intervals left or right from 15 metre transect up backwall; could consider systematic sampling. ✓S for this section.

Any valid strategy valid - up to 4 marks on selection of scree. Need to outline what the median access is - diagrams are permissible - up to 2 marks for this - so that it is clear to reader what has to be measured. Then need to consider what equipment used - for example callipers, pebblemeter - and how this equipment would be used. Up to 4 marks for this section. ✓M

Allow up to 3 for reference to own fieldwork.

(6 marks)

- 3 (a) (i) Feature A – Corrie/backwall  
 Feature B – Arête/pyramidal peak  
 Feature C – Glacial trough  
 Feature D - Ribbon lake/glacial trough.  
 4 x 1 (allow clearly valid alternative).

(4 marks)

- (ii) Any valid point - referring to landforms - e.g. glacial trough (1). Truncated spurs/very steep valley sides (1); narrow, flat valley floor (1). Evidence of corries in top right - (although not all visible)(1) and arêtes in similar location (1); appears to be misfit stream in bottom of valley - following the line of small trees/shrubs (1); many bare rock outcrops (1) and reference to detail, e.g. break in slope in foreground (1) 5 x 1

(5 marks)

- (iii) **P4** - evidence via map in terms of presence of many corries such as Red Tarn Nethermost Cove; arêtes - Striding Edge; glacial trough - Grisedale, part of ribbon lake of Ullswater.

Some evidence of scree slopes - e.g. Red screes - Keppel Cove/Brown Cove/Red Tarn indicative of importance of periglacial/weathering process. Similarly, many streams now present - Glenridding/Grisedale Beck being main two indicators now of the impact of water on the landscape.

**P5** - photographs show evidence of similar glacial features, must refer to specific photos - e.g. 1 ribbon lake; 3 - arête; 2 - corrie, etc. Also striations in evidence - **photo 6**.

Similarly, as with map, also evidence of other landforms and processes - scree slopes - on part of headwall; weathered nature of rock and indeed 'polished' appearance of Striding Edge, indicative of the influence of people.

**Level 1**

Describe features from the map and or photographs. Will consider evidence of glacial erosion - probably generalised.

*(1-4 marks)*

**Level 2**

Begins to target statements to questions - increasingly so for top of level.

Some specific use of resources in support.

Some reference to both maps and photos at the top end, but imbalance likely.

Will begin to consider other features of the landscapes.

*(5-7 marks)*

**Level 3**

Clearly relates content to purpose of question. Evidence used from both resources in support – a more balanced use.

Aware of other influences on the landscape - evidence provided.

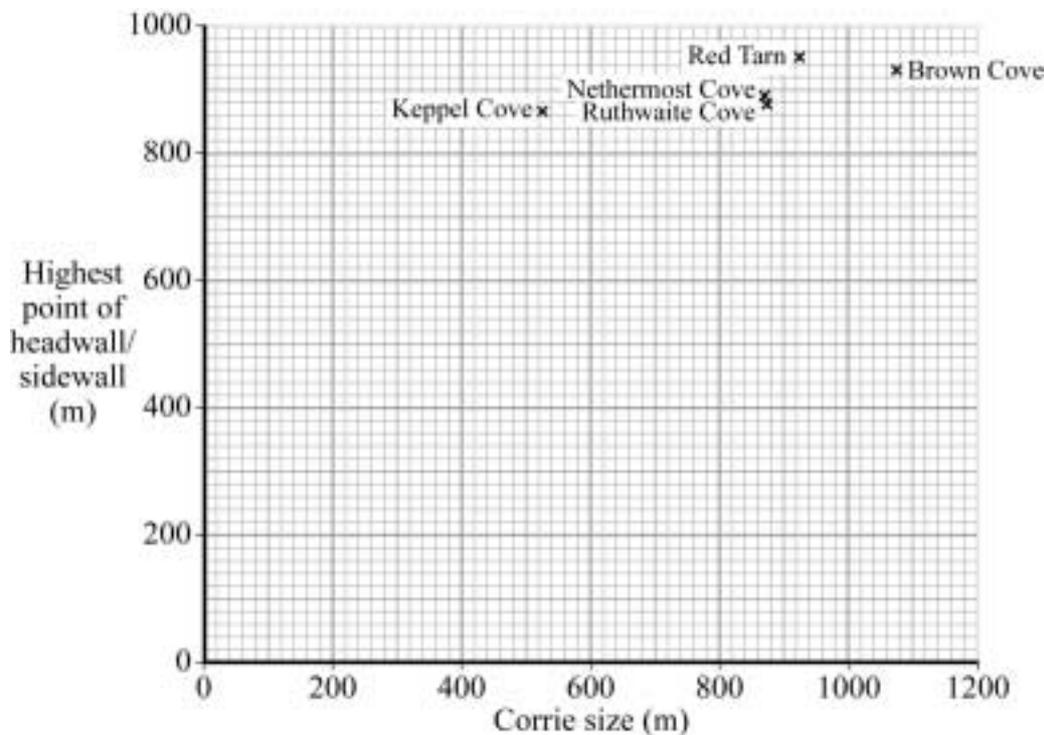
At top of level will be evaluative as to the relative importance.

*(8-9 marks)*

***(9 marks)***

- (b) (i) 1 + 1 for marking Brown Cove's altitude and use correctly on scattergraph.  
1 for adding Brown Cove to North East section of dispersion graph at correct altitude.

*(3 marks)*



(ii) **Figures 3a and 3b.**

The longest corrie is Brown Cove, which faces North East - it is also the highest corrie. Red Tarn also faces North East, is a similar altitude to Brown Cove but is considerably smaller. The remaining corries all face East - Nethermost Cove and Ruthwaite Cove are of similar size while Keppel Cove is substantially smaller. It appears therefore, that only for the largest and smallest is there any real link with size. According to the scatter graph, it appears there may be more evidence for a link between altitude and corrie size.

**Photographs 2 & 5**

There are of Red Tarn (facing N.E.) and Keppel Cove (facing E). Whilst there is no link to size measured in plan form, there is a clear difference here in the depth of these corries and the extent to which they have become 'armchair shaped'. Keppel Cove is much shallower and does not hold a lake unlike Red Tarn indicative of increased size vertically if not horizontally.

**Level 1**

Describes information from **Figures 3a and b** or **Photographs 1 and 5**.

Evidence may be detailed.

*(1-4 marks)*

**Level 2**

Begins to use information and to consider whether there is a link between corrie orientation and size. Will refer to **Figures 3a and 3b** and will at the top end either realise inconclusive/limited nature of the link or refer to photographs also.

*(5-7 marks)*

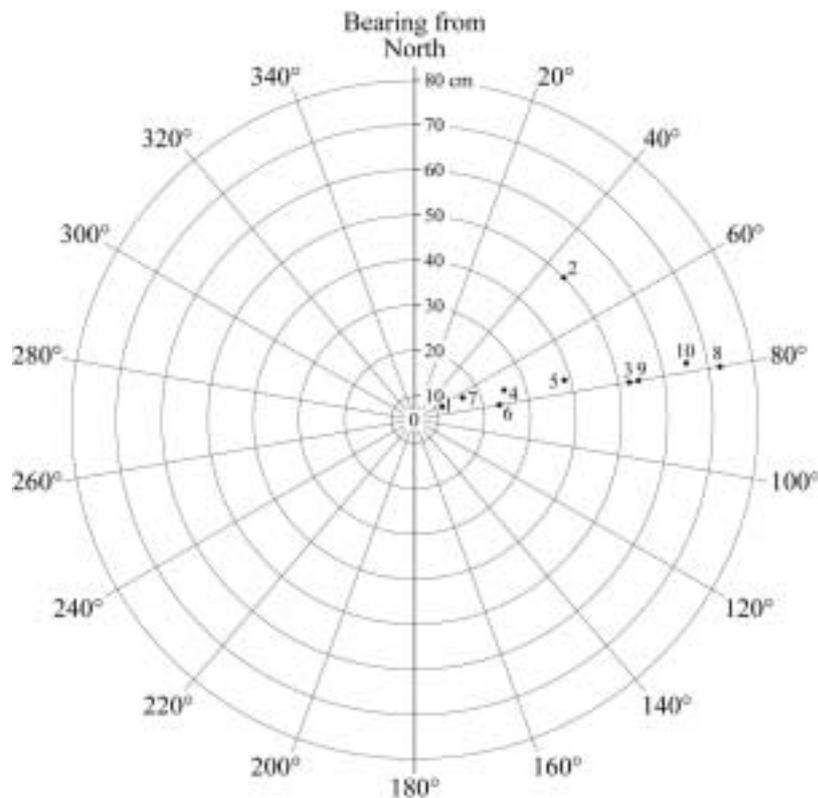
**Level 3**

Clearly targets information to purpose. Aware of limited link between orientation and size - supported by evidence from both **Figures 3a and b** and **Figure 5** (photos 2 and 5). Considers the role of altitude in seeking to investigate the initial link. Will come to a conclusion.

*(8 marks)*

***(8 marks)***

- (c) (i) 2 x (1 + 1) for adding sites 2 & 5 showing correct length (1) & bearing (1). (4 marks)



- (ii) **Figure 4** shows that all orientated North East/South West to East/West bearings range from 46-80°; majority are between 70-80°, 46° clearly exception. No link at all to orientation and length.

**Figure P7** width appears to be larger in those striations that have a bearing of 60°s into low 70°s, whilst depth, like length, shows no pattern at all. Comment likely to relate to implications for direction of movement of ice - would appear that ice moving in W-E/ WSW-ENE direction and this would link with evidence from OS map - **Fig 4** with regard to ice feeding area being to west south west in Red Tarn.

**Level 1**

May be detailed; should note clear orientation - this likely to be focus.

(1-3 marks)

**Level 2**

Will begin to realise that size varies across relatively similar bearings - will provide evidence of this. Will either begin to use **Figure P7** also - and refer to width/depth - or will make tentative comment.

(4-5 marks)

**Level 3**

Clear realisation of variation in length across similar bearings. Specific evidence will be provided in support. Reference to **Figure P7** for width or depth. Clear comment regarding the significance of the data.

(6 marks)

(6 marks)

- (d) (i) There is a relationship between three median axis and angle of slope (1).  
As angle of slope increases, the three scree size decreases (2);  
negative relationship (1). (2 marks)

- (ii) 1 mark d is 7 and  $d^2$  is 49  
1 mark for each incomplete part of equation

$$\frac{6318}{3360}$$

$$1 - 1.880$$

$$-0.880$$

(3 marks)

- (iii) The value calculated of -0.88 clearly exceeds the critical values of 0.441 and 0.623 (1) at both levels (95% and 99%) of significance; the null hypotheses should be rejected and expected hypothesis accepted (1) recognition of negative relationship (1) (3 marks)

(e) **Figure P10**

There is clear evidence of weathering on two of the photographs - 1 and 2. The rock is clearly cracked - cracks vary in size - these are the product of freeze thaw weathering. Photo 1 has been particularly susceptible and the rock is beginning to disintegrate into smaller sections. This is a characteristic of the landscape although clearly smaller in scale than glacial or periglacial features observed.

**Figure P5**, Photos 3, 4 and 5 show clear evidence of movement down slope. The terraces on photo 3 suggest slow movement of soil creep whilst these are also present on photo 4. There are also patches of bare ground suggesting a faster movement and some build up on the valley floor. Solifluction may be the cause of this - and may be exacerbated by spring melting of snow.

There is clearly some potential overlap here in that freeze thaw weathering and solifluction (gelifluction) occur in periglacial environments and are periglacial phenomena - quality responses may begin to debate this. In the context of P5, these two processes are of less significance given the scale of dominance of glacial erosion. However, there is evidence of weathering in photographs where rocks are exposed indicating current nature of process acting upon an area of relict glacial erosion. Presence of scree at Red Tarn is also indicative of mass movement.

Comment likely to refer to relative importance of these two processes scale of features resulting; current versus past importance; links between different processes; perhaps some discussion regarding classification of weathering/mass movement as separate from periglacial.

**Level 1**

Describes the landscapes shown in **Figure P10**.

Will note specific weathering or mass movement features.

Will refer to some evidence.

*(1-4 marks)*

**Level 2**

Begins to target information to question.

Evidence from photographs used in support of points made.

Shows an understanding of role played by processes.

Certainly on **Figure P5**. May begin to refer to **Figure P10**.

Tentative comment.

*(5-7 marks)*

**Level 3**

Clear, purposeful use of photographs as role of processes to explore per se and in context of Figure P5 as well as P10.

Evidence offered in support.

Clear, evaluative comment regarding role.

*(8 marks)*

***(8 marks)***

4.

**Level 1**

Simple statements made with reference to objectives or overall aim. May focus more on some aspects than others, e.g. characteristics of component rather than reasoning and be imbalanced. May jump about and be poorly structured. No reference to own fieldwork experiences. Lacks awareness of limitations or may refer to limitations only and neglect to summarise findings.

*(1-4 marks)*

**Level 2**

Some developments of statements. Refers to all objectives (perhaps in varying detail) and in appropriate order or clear reference to aim/title. Will make intermittent reference to evidence. Will show some awareness of reliability of findings and limitations and will show their own experience of conducting an enquiry by drawing on own experience. If good on either summary or limitations but no reference to other element, max 5. No explicit reference to own fieldwork – max 7.

*(5-8 marks)*

**Level 3**

As Level 2, but will refer precisely and specifically to data collected as evidence. Will be clearly aware of limitations. Will realise extent to which aims/objectives have been realised. Will be critically evaluative of enquiry. May suggest meaningful extensions of study. Will clearly be applying own experiences of fieldwork and enquiry.

*(9-10 marks)*

***(10 marks)***

- 5.** ✓f Footpath survey - measurement of depth/width of footpath (1) by placing two ranging poles across path (1) and measuring width with tape measure (1) noting area where species destroyed (1). Fix string tightly across (1) and then measure from string to record depth at path (1). Could also consider 2 vegetation cover; diversity of species using quadrant analysis. (Max 5)
- ✓s Sampling of sites - likely to be representative (1) + 1 for sensible interval (1) could be random if understood/explained (up to 2) and may use different strategies for different aspects of above survey. (Max 5)
- ✓t 2<sup>nd</sup> survey - Patterdale/Glenridding - allow any valid survey - e.g. perception questionnaire of tourists/residents; land use survey - 1 mark for what the survey is; 1 mark for each basic point; 1 + 1 if elaborated. (Max 5)
- ✓r One risk - may refer to upland environment for paths or village environment for impact of tourism.  
Any valid risk - tripping over stones/slipping; bad weather - mist/fog/rain; traffic hazards.
- One way of minimising risk - care taken; appropriate footwear/ clothing, etc. (Max 2)
- Minimum 1 for each component; maximum shown in brackets with regard to different sections. (13 marks)