



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark scheme January 2004

GCE

Archaeology

Unit ACH2

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ACH2**Post-Excavation, Dating and Interpretation****Question 1**

Study **Figure 1**.

Describe what is shown. (5 marks)

- | | | |
|-----|--|------------|
| L1: | Basic description ‘it shows rocks and bones’. | 1 |
| L2: | Partial accounts which might include some of: description of patterns or concentrations, use scale to refer to size of scatter or stones, position from cardinal points (or fit with other figures/text – but do not expect this). | 2-3 |
| L3: | Fuller accounts with most aspects of L2. | 4 |
| L4: | Clear, fluent L3 accounts using appropriate terms, e.g. lithics, orientation. | 5 |

Question 2

The earliest sites in Olduvai Gorge were dated to around 1.75 million years ago, which is well beyond the range of radiocarbon dating.

Outline **one** absolute dating method that could be used on sites of this antiquity. (6 marks)

- | | | |
|-----|---|------------|
| L1: | Able to offer a method useful for the Lower Palaeolithic. | 1 |
| L2: | Able to identify Potassium Argon Dating. | 2 |
| L3: | Able to outline some aspects of Pot-Argon Dating. For 3 marks accept gaps or inaccuracies along with 1-2 points of relevant detail. | 3-5 |
| L4: | Reasonably full and accurate accounts of Pot-Argon. | 6 |

Possible full response:

K-Ar-Geological Dating Method, used to date rock layers which contain (or underlie/overlie – sandwich) the remains. Specifically Volcanic Tuff (Ash). Radioactive Potassium isotopes decay at a known rate over time producing the gas Argon. The proportion of Argon measured in a sample will relate to the time since the volcanic activity which formed the rock. Error margin of +/- 10%+.

Credit up to 5mks accurate responses from outside the specification which could be used for this antiquity e.g. Fission Track Dating or Geomagnetic dating (complete magnetic reversals, not Archaeo-magnetism although there may be some merit in descriptions), but don't expect them. There are several other methods which can be used for over 500k years although not usually as far back as these sites. These include Uranium series, Electron spin resonance TL and Obsidian Hydration. Allow up to 3 marks for an accurate account of these which is made relevant. Indicate marks awarded for these alternatives with an asterisk.

Question 3

Study **Figure 2** and use your own knowledge.

As for many periods, the archaeologists studying the sites from Olduvai Gorge have developed elaborate classification systems for the various stone artefacts they have recovered.

Why do archaeologists find such detailed classification of artefact types useful?

(6 marks)

- L1: Descriptive responses. **1**
- L2: Responses which focus on what these artefacts might be used to infer e.g. activities at this site, or how they were made **2**
- L3: A few points made about possible uses of the figure e.g. to identify finds or to relatively date a site **3-4**
- L4: A wider range of points or an awareness of how archaeologists might use such taxonomies. Credit answers which use technical language appropriately at the top of the band **5-6**

Possible full response:

Communication between archaeologists, type series, benchmark, quantification and comparison of different assemblages, hypothesised tool function (perhaps backed by experiment or wear marks), identification of different site functions, relative dating.

Question 4

Study **Figure 1, 3(a), 3(b) and 3(c)** and use your own knowledge.

Figures 3(a), 3(b) and 3(c) are taken from archaeological studies exploring the effects of natural forces and animal activity on site formation.

How might information gained from such observations of processes be helpful in understanding the site in **Figure 1**?

(12 marks)

- L1: Answers which recycle question and captions. **1**
- L2: Accurate descriptive responses which recognise what is going on or generalised responses about experiments which have some implicit relevance to site formation. Responses may consider **why** these experiments might be relevant to the sort of site in Fig 1 or their use in identifying the site function. **2-5**
- L3: Answers with an explicit awareness of the importance of understanding site formation processes **or** the value of experiments in exploring them. These responses will focus on **how** each of the experiments might be relevant in interpreting Fig 1. **6-9**
- L4: Both parts L3. For 12 expect technical language to be used effectively. **10-12**

Many answers are likely to consider each in turn. Estimate the band first then use the mark spread to credit coverage. Credit considerations of limitations within bands but don't expect it.

Possible responses:

How sites were formed, role of natural forces in transforming archaeological remains, creation of palimpsests, understanding which remains move (how far) and which remain close to point of deposition, understanding soil formation and transformation, may discuss how such experiments might be carried out using this or other examples - including use of metallic strips to enable recovery by metal detector. May discuss other natural processes including erosion and sedimentation and experiments used to understand them. Use of parallels or analogs.

Question 5

Study **Figure 4** and use your own knowledge.

Often only tiny fragments of hominid bones survive from such a long time ago. What information can archaeologists derive from limited sources such as **Figure 4**?

(9 marks)

- L1: Generic ‘what can be learnt from bones’ responses which assume a complete skeleton and do not address the question. **1-2**
- L2: Detailed ‘scattergun’ responses which include some good relevant material amongst much that is not relevant, or very good responses on 1-2 lines of information, or a relevant list. 5 marks should be the maximum for good responses on bones but which do not acknowledge the references to fragments and time in the question. **3-5**
- L3: Good, relevant lists but limited range or unbalanced accounts on several types of information. Include here good generic bone responses with a few points relating to fragmented skeletal remains of from over 1 million years ago. **6-7**
- L4: Good accounts focused on a range of relevant methods and/or types of information that might be derived from remains as described. **8-9**

Possible responses include:

Age (dental enamel, tooth growth, bone epiphyses, skull thickness, examination of bone microstructure), sex, stature (using rations from long bones), **species**, **health**, activity (build and muscle attachment, stress fractures and breaks), **brain size** and thus **intelligence** from cavity size-casts might also be made to assess **brain functions**, diet or **meat eating** from teeth, **posture and ability to walk** from pelvis, hole at base of skull and leg joints, **social behaviour** from comparing female pelvis with infant skull size.

Reconstruction of fragments – as in this example to understand shape or face or body – possibly also facial reconstruction based on flesh thickness of modern specimens). Do not expect a full range for maximum marks. Responses needed for L3 and L4 in **bold**.

Question 6

Study **Figure 5(a)** and **5(b)** and use your own knowledge.

In order to overcome the limitations of the evidence and to try to interpret sites and artefacts from the past, archaeologists have drawn on studies of the sites, tools and activities of modern hunter-gatherers.

How far can such studies of modern people help us to understand the sites and assemblages found in the Rift Valley? *(12 marks)*

- L1: Simplistic responses, e.g. 'show how they lived'. **1-2**
- L2: Unbalanced accounts focussing on the use of ethnographies to interpret either sites or artefacts or rather general accounts of both (may include generic responses on the value of ethnography with only fleeting reference to these sites). Emphasis on 'how can' not 'how far'. **3-5**
- L3: Accounts able to identify a range of uses of ethnography to specifically interpret sites or assemblages (6 if just 1) or answers which argue well on limitations. **6-9**
- L4: Both elements of L3 (10 if just sites). For 12 expect responses to address the issue directly and effectively. **10-12**

Informing hypotheses on the relationship between artefacts and activity, nature and duration of site occupation, estimating numbers, understanding processing of raw materials including animal bones. Widening arx perspective from Eurocentric experiences and examples. May cite other examples e.g. Binford.

'How far' may include stressing limitations in terms of time, location and in some cases, species. Danger of direct analogies and racist or ahistorical assumptions about 'primitive' people or people living in a 'natural environment'.