

Mark Scheme (Results)

Summer 2013

ELBS Environmental and Land-Based
Studies ES101 01

The Natural Environment

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question Number	Answer	Mark
1 (a) (i)	Any correctly named tree eg elm, oak, sycamore	(1)

Question Number	Answer	Mark
1 (a) (ii)	Any correctly named species of plant eg bluebell Accept group eg fern	(1)

Question Number	Answer	Mark
1 (b)	Photograph 2 Beetle (1) Photograph 3 Spider (1) Photograph 4 Slug (1) Photograph 5 Earwig (1)	(4)

Question Number	Answer	Mark
1 (c) (i)	One mark for each correct observation Credit reference to extreme conditions e.g. snow storm or drought Summer Plants are in full bloom (1) Trees are in full leaf (1) Abundance of food (1) Birds and animals have produced their young (1) Animals hide food in preparation for Autumn and Winter (1) There will be more statements than this, credit if valid.	(2)

Question Number	Answer	Mark
1 (c) (ii)	One mark for each correct observation Credit reference to extreme conditions e.g. snow storm or drought Autumn: Tree leaves change colour (1) Tree leaves fall from the trees (1) Flowers wither and die (1) Some animals prepare for hibernation or semi-hibernation (1) Birds migrate (1) Seeds are spread (1) There will be more statements than this, credit if valid.	(2)

Question Number	Answer	Mark
1(c)(iii)	<p>One mark for each correct observation Credit reference to extreme conditions e.g. snow storm or drought</p> <p>Winter Trees and plants are dormant (1) Plants and animals save energy (1) Animals colour changes eg stoat (1) Animals hibernate (1) Some animals die because of lack of food (1) Cold weather causes major problems with access to food (1)</p> <p>There will be more statements than this, credit if valid.</p>	(2)

Question Number	Answer	Mark
2(a)(i)	<p>Do not expect a complicated answer.</p> <ul style="list-style-type: none"> • Part of the soil made from rotted vegetation (1) • Dead plant material in the soil (1) <p>or similar</p>	(2)

Question Number	Answer	Mark
2(a)(ii)	<p>Water Air Rock</p> <p>Accept: Bedrock/sand and silt clay from fig 2, instead of rock</p>	(2)

Question Number	Answer	Mark
2(b)(i)	<p>The % humus content falls (1) from 45% (1) to 0 (1) at 125cms (1)</p> <p>The % clay rises (1) to 35% (1) at a depth of 75cms (1) then falls (1) to 0% (1) at 125 cms.</p> <p>If there are figures quoted from the graph they should be credited within a tolerance of plus or minus 5% or 5cms.</p>	(2)

Question Number	Answer	Mark
2(b)(ii)	<p>Because humus is rotting vegetation it will be found near the surface (1)</p> <p>Some humus will have sunk into the soil (1)</p> <p>Insects and worms that live in the soil may have dragged the humus into the soil (1)</p> <p>The humus may have rotted away completely before it gets very deep. (1)</p> <p>Animal, such as rabbits or badgers, may have pushed the humus into the soil (1)</p> <p>Accept other valid answers.</p>	(2)

Question Number	Answer	Mark
3(a)	<p>One mark to max of 2 for each acceptable observation, e.g.</p> <ul style="list-style-type: none"> • How many fins • Size of fins • Colour of scales • Structure of scales • Size of fish • Pattern on scales • Shape of mouth • Shape of body • Shape of gills <p>Credit other valid characteristics.</p>	(2)

Question Number	Answer	Mark
3(b)	<p>Lobster to "This animal has two large claws" (1)</p> <p>Mussel to "This animal has a soft body (1)</p> <p>Sea star to "These animals are shaped like a star" (1)</p> <p>Sea anemone "This animal has a soft tube shaped stalk" (1)</p>	(4)

Question Number	Answer	Mark
3(c)	<p><i>A total of 4 marks for commenting on the way in which they have conducted an identification procedure;</i></p> <p>e.g.</p> <p>Students may be able to identify similarities (1) or differences (1)</p> <p>They may use these as features to sort them into groups (1)</p> <p>Students may describe the stages/practicalities involved in the process of classifying things. (1 for each stage)</p> <p>E.g. going through each stage to find a conclusion. (1 mark per aspect)</p> <p>Students may be able to recall a flow chart for classifying living things into groups (1 for each pertinent point)</p> <p>They may be able to suggest why classification systems might be useful to people eg farmers, biologist ornithologists. (1 mark per correct statement)</p> <p>Features used for separating things into groups (e.g. big pieces can break, textures can change) (1 mark plus)</p> <p>Observe, measurement sorting and description. (1 mark plus)</p> <p>Sub-dividing into even smaller groups of more closely similar types. (1 mark for each stage)</p> <p>Credit other observations if they are valid.</p>	(4)

Question Number	Answer	Mark
4(a)	<p>For either X the pond or Y the wood (or one statement for each) students may have chosen the site by:</p> <ul style="list-style-type: none"> • interviewing all the children in the school for the pond and/or the wood (1) • putting a map in the school foyer and giving people a vote for the pond and/or the wood (1) • conducted a soil/geology/drainage/permeability survey to find the best place for the pond and/or the wood (1) • studied the positions from many vantage points and found that X, or Y, was the most viewable spot (1) • interviewed the teachers (local residents, business people, environmentalists, local 	(2)

	<p>celebrity) to decide where either the pond or wood should be (1)</p> <ul style="list-style-type: none"> • conducted a survey of a similar nearby ponds or woods to ensure the best spot is chosen (1) • surveyed the area to see the best way to attract animals such as frogs, newts, sticklebacks to the pond or birds and mammals to the wood (1) • conducting a detailed weather survey to protect either the pond (from drought or flood) the wood (from strong winds). <p>There may be other suggestions that deserve credit.</p>	
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Question Number	Answer	Mark
4(b) i and ii	<p>It is anticipated that this question will be positively marked and, with such a wide range of potential answers, 1 mark awarded for each valid descriptive phrase or explanation in each section NO repetition between parts (i) and (ii)</p> <p>The students will likely describe and explain aspects of:</p> <p>How the wood and pond would improve the school environment (1) They may argue that it will give ownership to the school and community (1) Or that they need to take advantage of the environment of the school by:</p> <ul style="list-style-type: none"> • developing natural species of trees and plants (1) • that can be appreciated by the school (1) • and the community (1) • on a variety of different levels e.g. primary, secondary, youth clubs, PTA, scout groups, biologists, ornithologists, artists (1) <p>and they may discuss these groups in detail.</p> <p>They may describe the usefulness of the:</p> <ul style="list-style-type: none"> • wood and pond in that they will attract many species of animals from insects, (1) • many species of birds (1) • and even larger mammals such as to badgers and foxes (1) <p>and they may discuss these animals in detail.</p>	(8)

	<p>The wood and pond could have a positive aspect on:</p> <ul style="list-style-type: none">• the educational aspects of the school (1)• as the deciduous wood could be utilised by many academic subjects (1)• from mathematics, science, Geography and the ELBS Diploma (1) <p>Better students may make reference to sustainability or even link the wood to helping to prevent global warming.</p> <p>There may be criticism of the wood and/or pond and there may be reference to Health and Safety issues which will need to be credited</p>	
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