

Question Number	Answer	Acceptable answers	Mark
<b>1(a)(i)</b>	<b>B</b> <input checked="" type="checkbox"/> arrow head		<b>(1)</b>

Question Number	Answer	Acceptable answers	Mark
<b>1(a)(ii)</b>	<p><b>A suggestion including two of the following</b></p> <p>hunting/fighting/defence (1)</p> <p>{ preparing/ cooking/foraging for} food (1)</p> <p>making clothes (1)</p> <p>construction of {shelters/new tools/sharpening tools} (1)</p> <p>making fire (1)</p>	<p>accept weapons</p> <p>accept skinning animals for food/scraping bones</p> <p>accept skinning for clothes</p> <p>accept chopping wood</p>	<b>(2)</b>

Question Number	Answer	Acceptable answers	Mark
<b>1(b)</b>	<p><b>An explanation linking two of the following</b></p> <p><b>higher</b> abundance (1)</p> <p><b>more</b> stable over time/<b>less</b> susceptible to decay (1)</p> <p>high mutation rate (1)</p> <p>inheritance down female line (1)</p>	<p>accept <b>easier</b> to extract</p> <p>accept idea of maternal inheritance</p> <p>accept no recombination (1)</p>	<b>(2)</b>

Question Number	Answer	Acceptable answers	Mark
<b>1(c)</b>	<p><b>A description including two of the following</b></p> <p>show <b>changes</b> in body structure (1)</p> <p><b>changes</b> in stone tools (1)</p> <p>a specific example eg Ardi/Lucy/<i>Homo erectus</i> (1)</p>	accept development of named structural changes	<b>(2)</b>

Total for Question 1 = 7 marks

Question Number	Answer	Acceptable answers	Mark
<b>2(a)</b>	<p>A description including <b>three</b> of the following points:</p> <ul style="list-style-type: none"> <li>• all have digits/fingers (1)</li> <li>• all have { similar bones /radius / ulna / carpals} (1)</li> <li>• all have a humerus bone (1)</li> <li>• <u>pentadactyl</u> limb (1)</li> </ul>	<p>accept: phalanges for fingers</p> <p>accept: same bone structure</p>	<b>(3)</b>

Question Number	Answer	Acceptable answers	Mark
<b>2(b)</b>	<p>An explanation including <b>two</b> of the following points:</p> <ul style="list-style-type: none"> <li>• soft tissue of organisms does not form fossils (1)</li> <li>• some fossils are yet to be found (1)</li> <li>• fossils may be damaged (1)</li> <li>• conditions not correct for fossil formation (1)</li> <li>• fossils may only be fragments / not whole organisms (1)</li> </ul>	<p>accept: references to plant or animal tissue</p> <p>accept: reasons why they may not be found</p> <p>accept: reasons for damage e.g. earthquakes</p> <p>accept: named conditions e.g. pH</p>	<b>(2)</b>

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<b>2(c) (i)</b>	D 9.0%		<b>(1)</b>

Question Number	Answer	Acceptable answers	Mark
<b>2(c) (ii)</b>	<ul style="list-style-type: none"> <li>• lowered the level of carbon dioxide / carbon dioxide {removed / taken in} (1)</li> <li>• increased the level of oxygen / oxygen {produced / made} (1)</li> </ul>	<p>accept: percentage for level</p> <p>If CO<sub>2</sub> written must be correct, do not accept CO<sup>2</sup></p>	<b>(2)</b>

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<b>2(c) (iii)</b>	Any <b>two</b> from: <ul style="list-style-type: none"> <li>• large organisms { more complex/carry out greater number of functions / more cells}</li> <li>• for (more aerobic) respiration</li> <li>• for (more) energy</li> </ul>		<b>(2)</b>

Question Number	Answer	Acceptable answers	Mark
<b>3a(i)</b>	Genus – Geospiza Species -conirostris	<b>accept geospiza</b> <b>accept Conirostris</b>	<b>(2)</b>

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<b>3a(ii)</b>	A suggestion including two of the following: <ul style="list-style-type: none"> <li>• (different beak sizes/adapted) enable different finches to feed on different food types (1)</li> <li>• less competition between species (1)</li> </ul>	eat different foods accept comparison between 2 beaks and food source  more species are able to co-exist (1)	<b>(2)</b>

Question Number	Answer	Acceptable answers	Mark
<b>3a(iii)</b>	<b>B</b> <input checked="" type="checkbox"/> geographic isolation		<b>(1)</b>

Question Number	Answer	Acceptable answers	Mark
<b>3b</b>	<p>A suggestion linking <b>three</b> of the following points:</p> <ul style="list-style-type: none"> <li>• variation between species/ beak sizes/ shapes (1)</li> <li>• due to mutation(1)</li> <li>• competition for resources (1)</li> <li>• survival of the fittest /those best adapted to the environment survived (1)</li> <li>• those who survive pass their genes/characteristics onto their offspring (1)</li> <li>• natural selection (1)</li> </ul>		<b>(3)</b>

Total for question 3 – 8 marks

Question Number	Answer	Acceptable answers	Mark
<b>4(a)(i)</b>	A – adaptations		<b>(1)</b>

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<b>4(a)(ii)</b>	<p>Any one from the following:</p> <ul style="list-style-type: none"> <li>• large surface area to facilitate heat loss (1)</li> <li>• insulating/fat layer (1)</li> <li>• correct adaptation of skin / fur / hair(1)</li> </ul>	<p>(thick layer) of bacteria</p> <p>credit observable valid 'suggestions' from the photo</p> <p>ref to not needing to regulate temperature as poikilothermic (1)</p>	<b>(1)</b>

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<b>4(a)(iii)</b>	<p>A explanation to include <b>two</b> of the following points:</p> <ul style="list-style-type: none"> <li>• publishing the evidence and results in scientific journals (1)</li> <li>• getting other scientists to review their experiment / repeat the experiment (1)</li> <li>• scientists to investigate hydrothermal vents (1)</li> <li>• participating in scientific conferences to discuss experiment / results (1)</li> <li>• taking samples of organisms in hydrothermal vents for comparison (1)</li> </ul>	<p>use peer review (1)</p> <p>scientists searched the ocean (1)</p> <p>comparing notes/meeting with other scientists (1)</p>	<b>(2)</b>

Question Number	Answer	Acceptable answers	Mark
<b>4(b)(i)</b>	<p>An explanation to include <b>two</b> of the following:</p> <ul style="list-style-type: none"> <li>• competition (occurs between members of a species) (1)</li> <li>• best suited / better adapted members out-compete and survive (1)</li> <li>• these members will reproduce (more times) (1)</li> <li>• the members who cope less well will die / extinction occurs (1)</li> <li>• reference to natural selection (1)</li> </ul>	<p>idea of survival of the fittest (1)</p> <p>reference to passing on genes to help them survive (1)</p> <p>reference to species interbreeding to form hybrids (1)</p>	<b>(2)</b>

Question number	Answer	Acceptable answers	Mark
<b>4(b)(ii)</b>	<p>A description to include the following:</p> <ul style="list-style-type: none"> <li>• the formation of a new species / new characteristics (1)</li> <li>• due to geographical isolation (1)</li> <li>• no longer able to breed with the original species</li> </ul>	<p>{ development / evolution } of a { different type / new type } of species (1)</p> <p>due to separation from the original species / change of habitat (1)</p>	<b>(2)</b>

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<b>5(a)(i)</b>	650 ÷ 100 (1) x 40 = 260 (1)	10% of 650 = 65 65 x 4 = 260	<b>(2)</b>

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<b>5(a)(ii)</b>	discontinuous (variation)	<b>Ignore</b> genetic variation (as not shown in the graph) <b>Accept</b> discrete	<b>(1)</b>

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<b>5(b)(i)</b>	C		<b>(1)</b>

Question Number	Answer	Acceptable answers	Mark
<b>5(b)(ii)</b>	A description including the following points: <ul style="list-style-type: none"> <li>• continuous variation / data (1)</li> <li>• normal distribution curve (1)</li> <li>• correct interpretation of data from the graph (1)</li> </ul>	bell shaped curve e.g most common height range 150 – 15	<b>(3)</b>



Question Number	Answer	Acceptable answers	Mark
<b>5(c)</b>	<p>An explanation linking <b>three</b> of the following points:</p> <ul style="list-style-type: none"> <li>• most individuals within a population vary slightly from one another (1)</li> <li>• most organisms produce more young than will survive to adulthood / overproduction (1)</li> <li>• there is much competition within and between species (1)</li> <li>• those organisms with advantageous characteristics will survive (1)</li> <li>• the advantageous characteristics will be inherited / better adapted organisms are more likely to survive to reproduce (1)</li> </ul>	<p>taller animals outcompete smaller animals for food</p> <p>survival of the fittest</p> <p>the genes for the characteristics will be passed on / offspring will have the desired characteristics</p>	<b>(3)</b>