

Mark Scheme Core GCSE QWC**7(b) Biology Jan F**

<b>0 marks</b>	<b>Level 1 (1–2 marks)</b>	<b>Level 2 (3–4 marks)</b>	<b>Level 3 (5–6 marks)</b>
No relevant content	There is simple description of the early stages of adult cell cloning. However there is little other detail and the description may be confused or inaccurate.	There is an almost complete description of the early stages of the process and description of some aspects of the later stages. The description may show some confusion or inaccuracies.	There is a clear, detailed and accurate description of all the major points of how adult cell cloning is carried out.

**Examples of Biology points made in the response could include:**

- skin cell from zorse
- (unfertilised) egg cell from horse
- remove nucleus from egg cell
- take nucleus from skin cell
- put into (empty) egg cell
- (then give) electric shock
- (causes) egg cell divides / embryo formed
- (then) place (embryo) in womb /
  
- uterus

**Chemistry F, Jan 12 - Q5b**

<b>0 marks</b>	<b>Level 1 (1-2 marks)</b>	<b>Level 2 (3-4 marks)</b>	<b>Level 3 (5-6 marks)</b>
No relevant content.	There is a simple description of a positive <b>and / or</b> a negative impact caused by the plan to quarry limestone and / or make cement.	There is a clear description of both a positive <b>and</b> a negative impact caused by the plan to quarry limestone and / or make cement.	There is a detailed description of both positive impacts <b>and</b> negative impacts caused by the plan to quarry limestone and / or make

**examples of the chemistry points made in the response**

**Positive impacts:**

Limestone / cement is used for building  
Limestone needed for industrial processes  
Company landscapes / provides recreation facilities in the quarry after use  
Provides employment  
Improves local economy  
Improved transport links

**Negative impacts:**

Destruction of habitats  
Fewer plants / trees to absorb carbon dioxide  
Example of visual pollution  
Example of noise pollution  
Example of atmospheric  
More traffic

## Physics F Jan 2012 Q 8b

0 marks	Level 1 (1–2 marks)	Level 2 (3–4 marks)	Level 3 (5–6 marks)
No relevant content	There is a brief description of one advantage or disadvantage of using either overhead or underground cables.	There is a description of some of the advantages <b>and / or</b> disadvantages for both overhead and underground cables, with a minimum of three points made. There must be at least <b>one</b> point for each type of cable.	There is a clear and detailed description of the advantages <b>and</b> disadvantages of overhead and underground cables, with a minimum of five points made. At least one advantage and one disadvantage for each type of cable.

question answers extra information mark examples of the points made in the response	extra information
<p>Overhead Advantages:</p> <ul style="list-style-type: none"> <li>• (relatively) quick / easy to repair / maintain / access</li> <li>• less expensive to install / repair / maintain</li> <li>• cables cooled by the air</li> <li>• air acts as electrical insulator</li> <li>• can use thinner cables</li> </ul> <p>Disadvantages:</p> <ul style="list-style-type: none"> <li>• spoil the landscape</li> <li>• greater risk of (fatal) electric shock</li> <li>• damaged / affected by (severe) weather</li> <li>• hazard to low flying aircraft / helicopters</li> </ul>	<p>marks may be gained by linking an advantage for one type of cable with a disadvantage for the other type of cable eg</p> <p>overhead cables are easy to repair = 1 mark</p> <p>overhead cables are easier to repair = 1 mark</p> <p>overhead cables are easier to repair than underground cables = 2 marks</p> <p>easy to install is insufficient</p> <p>do <b>not</b> accept easy to spot / see a fault</p> <p>less expensive is insufficient</p> <p>accept thermal energy / heat removed by the air</p> <p>accept there is no need for electrical insulation (around the cables)</p> <p>difficult to reach is insufficient</p> <p>land beneath cables can still be used is insufficient</p> <p>accept specific examples eg high winds, ice</p> <p>more maintenance is insufficient</p> <p>kites / fishing lines can touch them is insufficient</p> <p>hazard to aircraft is insufficient</p>

**Specimen paper Biology**

<b>0 marks</b>	<b>Level 1 (1-2 marks)</b>	<b>Level 2 (3-4 marks)</b>	<b>Level 3 (5-6 marks)</b>
No relevant explanation	There is a brief of at least two ways in which the energy captured by the heather is transferred, which has little clarity and detail. Credit may be awarded either for references to general ways in which organisms transfer energy or to ways in which specific organisms in the food web transfer energy.	There is some explanation of a range of the ways in which the energy captured by the heather is transferred. Credit may be awarded either for references to general ways in which organisms transfer energy or to ways in which specific organisms in the food web transfer energy.	There is a clear, balanced and detailed explanation of a large variety of ways in which energy captured by the heather is transferred. Credit may be awarded either for references to general ways in which organisms transfer energy or to ways in which specific organisms in the food web transfer energy.

**examples of biology points made in the response**

- respiration releases energy (allow this point even if given for named organism) NB: to gain full marks, candidates must gain this mark.
- some energy lost in animals / named animal.s waste materials
- some energy used in maintenance / repair (allow this point if given for named organism)
- some energy used for movement (allow this point if given for named animal)
- energy lost as heat to surroundings (allow this point if given for named organism)
- some organisms die (rather than being eaten) (allow this point if given for named organism)
- reference to detritivores / microbes

## Chemistry Specimen paper

<b>0 marks</b>	<b>Level 1 (1-2 marks)</b>	<b>Level 2 (3-4 marks)</b>	<b>Level 3 (5-6 marks)</b>
No relevant content.	There is a brief description of a positive and a negative environmental impact involved with one or more methods used to reduce the amount of plastic bags sent to landfill.	There is some description of both positive and negative environmental impacts involved with at least 2 methods used to reduce the amount of plastic bags sent to landfill.	There is a clear, balanced and detailed description of both a positive and a negative environmental impact of using each of the 3 methods used to reduce the amount of plastic bags sent to landfill.

**examples of the chemistry points made in the response**

<b>reuse:</b>	<b>recycle:</b>
<p>reuse means less bags used so: positive environmental impact</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> saves raw materials / crude oil</li> <li><input type="checkbox"/> saves energy</li> <li><input type="checkbox"/> cuts down on CO<sub>2</sub> emissions</li> <li><input type="checkbox"/> less global warming</li> </ul> <p>negative environmental impact</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> could cause litter</li> <li><input type="checkbox"/> could</li> </ul> <p><b>burn:</b> bags can be burned so: positive environmental impact</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> could provide energy for heating buildings</li> <li><input type="checkbox"/> could provide energy for generating electricity</li> </ul> <p>negative environmental impact</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> increases CO<sub>2</sub> emissions</li> <li><input type="checkbox"/> increases global warming</li> <li><input type="checkbox"/> could release toxic gases</li> </ul> <p>does not conserve raw materials / crude oil</p>	<p>bags can be recycled so: positive environmental impact</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> used to make new plastic bags / objects</li> <li><input type="checkbox"/> saves raw materials / crude oil</li> <li><input type="checkbox"/> saves energy compared to producing plastic bags from crude oil</li> <li><input type="checkbox"/> cuts down on CO<sub>2</sub> emissions</li> <li><input type="checkbox"/> less global warming</li> </ul> <p>negative environmental impact</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> collection point sites cause an eyesore / litter problem</li> <li><input type="checkbox"/> transportation to recycling plant releases carbon dioxide / causes global warming</li> </ul>

