
Assignment Guide: Unit 12 Electrons in Action

Outline Guidance for Assignment 12.1	Commentary on Mark Allocation
<p>Task 1</p> <p>Research work</p> <p>This should include the theory of the production of electrons in an electrochemical cell.</p> <p>The coverage would be that in 12.2.2.</p> <p>Include description of cell that is chosen to be investigated with reason for choice.</p>	<p>Consideration of the theory should lead to the choice of conditions to change. One of the conditions changed should show no effect if AO3a MB3 is to be obtained.</p>
<p>Task 2</p> <p>Risk assessment work to be completed</p> <ul style="list-style-type: none">• Safety considerations to include• Any hazard associated with the metals the salt solutions• The use of the salt bridge. <p>Practical work</p> <p>Students to be presented with the basic experimental details of constructing a cell using two half-cells.</p> <p>Students to complete and record conditions they used and carry out a number of relevant experiments.</p>	<p>No risk assessment included, no marks.</p> <p>Indicate if risk assessments have been independently produced.</p> <p>Language of write-up advised not to use "I".</p> <p>Member of staff to record evidence of completion of the students' practical work (suggested use – a timecard).</p>

<p>Task 3/Task 4</p> <p>Results</p> <ul style="list-style-type: none"> • Tabulated • Displayed graphically <p>Suitable analysis of results needs to be included. With a comparison of results linked to the requirements of the original assignment.</p> <p>The emf of this cell under standard conditions can be calculated using standard E° values. (Examples of calculations of emf of various cells using E° values).</p> <p>Conclusions Drawn from the data and applied to the brief.</p> <p>Accuracy, evaluation of procedures</p> <ul style="list-style-type: none"> • Discussion of the accuracy of the apparatus used • Limitations of the method • Possible other methods • Discussion of how results could be expected from original theory. 	<p>Results suitably presented, to be used by another company.</p> <p>Must be at least two sets of results in order to achieve MB1.</p> <p>If help has been given, only MB1 possible.</p> <p>MB3 requires the data to be tabulated to the accuracy of which the apparatus is capable and the data to be displayed with units etc. and in “easy-to-read” formats.</p> <p>Possible contribution to AO2. Actual mark will depend on whether the calculations are straightforward or complex.</p> <p>MB1 will be given for an obvious conclusion. Conclusion must be related to the theory of cells for MB3.</p> <p>MB3 is awarded only if alternative methods are suggested.</p> <p>Standard hydrogen electrode.</p>
--	--