OCR
Oxford Cambridge and RSA

Applied Science

OCR GCE Unit G631 Electrons in Action

Unit Recording Sheet

Please read the instructions printed at the end of this form. **One** of these sheets, suitably completed, should be attached to the assessed work of **each** candidate.

Unit Title	**Electrons in Action**	**Unit Code**	**G631**	**Session**	**June**	**Year**	**2**	**0**		
Centre Name					**Centre Number**					
Candidate Name					**Candidate Number**					

Evidence: The candidate needs to produce evidence of their investigation into the principles and applications of electrochemical changes

Criteria			Teacher Comment	Mark	Page No.
AO1(a).1: Candidate will demonstrate a basic knowledge and understanding of the principles of electrochemical change as outlined in the specifications; candidate will give at least **two** examples of the applications of electrochemical change; candidate will use corrected scientific terminology and conventions; **[0 1]**	AO1(a).2: candidate will demonstrate a sound knowledge and understanding of the principles of electrochemical change as outlined in the specifications; candidate will give a range of examples of the applications of electrochemical change; candidate will give clear explanations and use correct scientific terminology and conventions; **[2 3]**	AO1(a).3: candidate will demonstrate a thorough knowledge and understanding of the principles of electrochemical change as outlined in the specifications; candidate will give a wide range of examples of the applications of electrochemical change; candidate will give clear explanations and use correct scientific terminology and conventions appropriately **[4 5]**			
AO1(b).1: Candidate will research the application of electrochemical changes in the production of • an electric current • metals; information will have been selected and presented clearly with evidence of corrected punctuation and grammar; **[0 1]**	AO1(b).2: candidate will research the application of electrochemical changes in the production of • an electric current • metals • giving a range of examples; information will have been selected, explained and presented clearly with spelling, punctuation and grammar mainly used correctly; **[2 3]**	AO1(b).3: candidate will research the application of electrochemical changes in the production of • an electric current • metals • giving a wide range of examples; information will have been selected, explained and presented clearly with correct use of spelling, punctuation and grammar throughout. **[4 5]**			

Criteria			Teacher Comment	Mark	Page No.
AO2(a).1: Candidate will research **two** types of commercial cells, giving at least one example for each type; candidate will compare the cells for • construction and method of producing an electric current • resources used in production • efficiency • safety and environmental effect • sustainability • use; information will be presented clearly; **[0 1 2 3 4]**	AO2(a).2: candidate will research **three** types of commercial cells and give **at least one** example for each type; candidate will compare the cells for • construction and method of producing an electric current • resources used in production • efficiency • safety and environmental effect • sustainability • use; information will be explained and presented clearly; **[5 6]**	AO2(a).3: candidate will research commercial cells and give **at least one** example for a wide range of cells; candidate will compare the cells for • construction and method of producing an electric current • resources used in production • efficiency • safety and environmental effect • sustainability • use; information will be explained in detail and presented clearly. **[7 8]**			
AO2(b).1: Candidate will carry out some straightforward calculations of • emf of cells • quantity of charge; candidate will research and use data to compare the efficiency of commercial cells; **[0 1 2]**	AO2(b).2: candidate will carry out calculations of • emf of cells • quantity of charge • mass of products; candidate will research and use data to compare the efficiency of commercial cells; candidate will obtain correct solutions; **[3 4]**	AO2(b).3: candidate will carry out complex calculations of • emf of cells • quantity of charge • mass of products; candidate will research and use data to compare the efficiency of commercial cells; candidate will obtain correct solutions to the appropriate degree of accuracy. **[5 6]**			

AO3(a).1: Candidate will plan suitable experiments to investigate the effect of changing one condition on • emf of a cell • mass of copper deposited during electrolysis; there will be evidence of the use of a risk assessment; **[0 1 2 3 4]**	AO3(a).2: candidate will plan suitable experiments to investigate the effect of changing conditions on • emf of a cell • mass of copper deposited during electrolysis; candidate will produce risk assessments consistent with COSHH guidelines; candidate will work with an appropriate degree of accuracy; **[5 6]**	AO3(a).3: candidate will plan suitable experiments to investigate the effect of changing a wide range of conditions on • emf of a cell • mass of copper deposited during electrolysis; one of the changes in conditions should show no effect; candidate will produce detailed risk assessments consistent with COSHH guidelines; candidate will work with an appropriate degree of accuracy and candidate will explain any practical techniques that will improve results. **[7 8]**			

Criteria			Teacher Comments	Mark	Page No.
AO3(b).1: Candidate will make and record relevant observations and measurements for both experiments; the data will be displayed clearly; **[0 1 2 3 4]**	AO3(b).2: candidate will make and record relevant observations and measurements for both experiments; the measurements will be recorded to the appropriate degree of accuracy and the data will be displayed clearly; **[5 6]**	AO3(b).3: candidate will make and record relevant observations and measurements for both experiments; the measurements will be recorded to the appropriate degree of accuracy and the data will be displayed clearly and used in appropriate calculations. **[7 8 9]**			
AO3(c).1: Candidate will try to interpret the results for both experiments; **[0 1 2]**	AO3(c).2: candidate will interpret the results and draw basic conclusions for both experiments; candidate will evaluate the procedures; **[3 4 5 6]**	AO3(c).3: candidate will interpret the results in detail and draw conclusions for both experiments; candidate will evaluate the procedures and suggest alternatives. **[7 8 9]**			
			Total/50		

If this work is a re-sit, please tick		Session and Year of previous submission	Jan / June	**2**	**0**			Please tick to indicate this work has been standardised internally	

Please note: This form may be updated on an annual basis. The current version of this form will be available on the OCR website (www.ocr.org.uk).

Guidance on Completion of this Form

1 **One** sheet should be used for each candidate.
2 Please ensure that the appropriate boxes at the top of the form are completed.
3 Please enter *specific* page numbers where evidence can be found in the portfolio, and where possible, indicate to which part of the text in the mark band the evidence relates.
4 Circle the mark awarded for each strand of the marking criteria in the appropriate box and also enter the circled mark in the final column.
5 Add the marks for the strands together to give a total out of 50. Enter this total in the relevant box.