

MCDS 11/12 Lab Assessment Rubric
(Assessments based on International Baccalaureate Experimental Sciences Criteria)

Name of Student:				Date:	Period:	
Investigation Title:				Course:		
Group Members:						
Criterion	0 / 1	2	3	4	Score Mag.	Final Mark
Introduction	Introduction is absent <u>OR</u> misrepresents the purpose of the experiment and does not supply background information.	Introduction includes incomplete background information (research). The last paragraph of the introduction is a vague statement of the lab's purpose. In-text citations are present.	Introduction includes some appropriate background information (research). The last paragraph of the introduction is a well-written statement of the lab's purpose. In-text citations are mostly correct.	Introduction includes clear and appropriate background information (research). The last paragraph of the introduction is a well-written statement of the lab's purpose. In-text citations are correct.	2X	
Problem	Problem / research question is absent <u>OR</u> does not state the question to be answered.	The problem / research question to be answered by the lab is stated but is unclear or incomplete. Some variables are listed.	The problem / research question to be answered by the lab is stated but is vague or not in question form. Pertinent variables are listed.	The problem / research question to be answered by the lab is stated clearly in question form. All pertinent variables (independent, dependent, and controlled) are clearly described.	1X	
Hypothesis	Hypothesis is absent <u>OR</u> does not supply an educated guess regarding the outcome of the problem.	Hypothesis is related to the research question and supplies a guess that may lack explanation.	Hypothesis is related to the research question and is explained using the "If, then, because" format.	Hypothesis is specific, directly related to the research question, and is explained clearly using the "If, then, because" format.	1X	
Experimental Method (Materials & Procedure)	Procedures are absent, <u>OR</u> do not state the experiment planned.	The method allows for the collection of some relevant data, and identifies equipment used.	The method allows for the collection of relevant data (more than one trial), controls some variables, and selects usable equipment (diagrams and/or descriptions) Step-by-step format is used	The method allows for the collection of sufficient relevant data (3+ trials), controls variables, and selects appropriate equipment (diagrams and/or descriptions). Clearly written, step by step format is used	2X	
Data Collection (Observations)	Results of the procedure are absent <u>OR</u> are not understandable.	Some raw data is recorded. Data may be presented in a disorganized manner. Handwritten lab notes or logbook may be attached.	Raw data (quantitative / qualitative) is recorded correctly including most units, and is presented in an understandable format. Handwritten lab notes or logbook is attached.	Raw data (quantitative / qualitative) is recorded appropriately (table) including units, correct significant figures, errors & uncertainties, and is presented clearly allowing for easy interpretation. Handwritten lab notes or logbook is attached.	2X	
Data Processing and Presentation	Data processing and presentation is absent <u>OR</u> inaccurately reflects data.	Raw data is processed in some manner. Units may be displayed. Equations used may be included.	Raw data is mostly processed correctly to produce results that help interpretation. Correct units are usually displayed. Most equations used are written.	Raw data is processed correctly to produce results that help interpretation (calculations / charts / graphs / error analysis). Correct units are displayed All equations used are written clearly.	2X	

Evaluation / Conclusion	Conclusion is absent <u>OR</u> misinterprets results, and fails to reflect on methods and improvements.	Conclusion has some validity. Results are explained very basically. Weaknesses or errors in the procedure, apparatus, and experiment are partially evaluated; obvious limitations are missed. Suggestions to improve the investigation are simplistic or missing.	Conclusion has some validity. Results are explained very basically using references. Weaknesses or errors in the procedure, apparatus, and experiment are partially evaluated. Suggestions to improve the investigation are simplistic.	Valid conclusion based on correct interpretation of results is given. Results are compared to or explained using references. Weaknesses or errors in the procedure, apparatus, and experiment are evaluated. Suggestions to improve the investigation are stated, explained, and correspond with the weaknesses cited.	3X	
Manipulative Skills	Few techniques and instructions can be carried out independently. Safety is not attended to.	Some techniques can be carried out without major errors. Some attention paid to safety. Simple instructions can be followed accurately. Much assistance is required in adapting to new circumstances	Several techniques can be carried out with proficiency and appropriate attention paid to safety. Simple instructions can be followed accurately. Some assistance is required in adapting to new circumstances.	A wide range of techniques can be carried out with proficiency and appropriate attention paid to safety. A variety of instructions can be followed accurately and little to no assistance is required in adapting to new circumstances.	1X	
Personal Skills a	Members of the team do not collaborate, and do not seek and acknowledge other's opinions.	Teams have trouble collaborating. Views of some team members are acknowledged.	Teams whose members collaborate can be formed with some people. Views of most team members are acknowledged.	Teams whose members collaborate can be formed with a wide variety of people. Views of all team members are acknowledged, respected, and actively sought. Even those of less confident team members.	1X	
Personal Skills b	Scientific investigations are not approached independently, initiative is not shown, and ethical and environmental impact is not taken into account.	Scientific investigation is approached with significant additional assistance. Little attention is paid to the environmental and ethical aspects of the investigation including authenticity of data.	Scientific investigation is approached responsibly with some assistance. Some attention is paid to the environmental and ethical aspects of the investigation including authenticity of data.	Scientific investigation is approached independently and responsibly with initiative shown and is followed through to completion. Considerable attention is paid to the environmental and ethical aspects of the investigation including authenticity of data.	1X	
(Other)						
Total Rubric Points:						

Raw Score = _____
64 .

Final Point Score: _____ = _____ % pts

I understand that, while lab work is a group effort, the writing of my paper is not. I understand that reporting true data is critical in the scientific process. I hereby declare that I have not copied, plagiarized, or falsified any part of my laboratory data or write-up. This report is my own work. (Note: failure to cite resources will result in a "zero" grade.)

Signed: _____

Date: _____