

Grading Criteria for Scientific Critical Thinking Skills

Grading Criteria for Accuracy, Precision, and Concision		
Proficient	Key actions or items are identified. The correct nouns, verbs and adjectives are used to describe the required information. The identity of all nouns and pronouns is unambiguous. No superfluous information (correct or incorrect) is given. Not excessively wordy.	
Novice	Key/all nouns and pronouns are ambiguous. The essential information is incorrect. Superfluous information (correct or incorrect) is given. Excessively wordy or excessively brief.	
Grading Criteria for Interpretation and Description		
Proficient	Uses the “eternally true” information found in data- correlations, comparisons, max/min, etc. to describe experimental results. Uses appropriate caution when wording interpretations about data (“hedging”). Interpretations are solidly coupled to experimental observations.	
Novice	Description of data is composed entirely on statements based on expected behavior, no connection to experimental evidence is given for interpretations. No observable features of experimental results are described.	
Grading Criteria for Organization		
	<i>Broad</i>	<i>Fine</i>
Proficient	Report is divided into appropriate subsections, each subsection contains all of the essential information and does not contain information that does not belong in that subsection	Each section is organized around the appropriate move structure (see <i>Write Like a Chemist</i> , Appendix B). Each paragraph follows naturally from and where appropriate, is explicitly linked to the previous paragraph.
Novice	No subsections are present, information is presented in a linear “time-based” structure or other irregular fashion	Appropriate move structures are not used. Information is organized around sequences of events or a literary “random walk”
Rubric for Synthesis of Information		
Proficient	Multiple disparate observations are combined in an innovative fashion to support a single (novel) conclusion.	
Novice	Information is listed without connection to final conclusion. Evidence is given but not linked to what it is intended to support. Impossible or illogical explanations are suggested.	