

Task Rubric – Analysis of Fuels Report

Expectations*	Criteria	Level 1	Level 2	Level 3	Level 4
Knowledge/Understanding					
The student:					
1	– constructs an accurate and detailed diagram of the calorimeter that he or she has designed	– constructs a diagram that has limited accuracy and detail	– constructs a diagram that has some accuracy and detail	– constructs a diagram that has considerable accuracy and detail	– constructs a diagram that has a high degree of accuracy and detail
1	– effectively explains how the calorimeter functions	– explains with limited effectiveness how the calorimeter functions	– explains with some effectiveness how the calorimeter functions	– explains with considerable effectiveness how the calorimeter functions	– explains with a high degree of effectiveness how the calorimeter functions
Inquiry					
The student:					
5, 1	– accurately performs the calorimetry calculations using $Q = mc\Delta T$	– performs the calorimetry calculations with limited accuracy	– performs the calorimetry calculations with some accuracy	– performs the calorimetry calculations with considerable accuracy	– performs the calorimetry calculations with a high degree of accuracy
4, 2	– accurately describes the physical and chemical changes that occurred with balanced thermochemical equations (e.g., by including states of matter, numerical values for heat)	– describes the changes with limited accuracy	– describes the changes with some accuracy	– describes the changes with considerable accuracy	– describes the changes with a high degree of accuracy
5	– effectively assesses the accuracy of the experimental results	– assesses the accuracy of the results with limited effectiveness	– assesses the accuracy of the results with some effectiveness	– assesses the accuracy of the results with considerable effectiveness	– assesses the accuracy of the results with a high degree of effectiveness
5	– interprets the results effectively	– interprets the results with limited effectiveness	– interprets the results with some effectiveness	– interprets the results with considerable effectiveness	– interprets the results with a high degree of effectiveness

Expectations*	Criteria	Level 1	Level 2	Level 3	Level 4
Communication					
The student:					
8	– clearly communicates observations and results in a table format (e.g., includes units)	– communicates observations and results in a table with limited clarity	– communicates observations and results in a table with some clarity	– communicates observations and results in a table with considerable clarity	– communicates observations and results in a table with a high degree of clarity
3, 7	– uses scientific language effectively throughout the report	– uses scientific language with limited effectiveness	– uses scientific language with some effectiveness	– uses scientific language with considerable effectiveness	– uses scientific language with a high degree of effectiveness
Making Connections					
The student:					
6	– demonstrates an understanding of the importance of the chosen fuel	– demonstrates limited understanding of the importance of the chosen fuel	– demonstrates some understanding of the importance of the chosen fuel	– demonstrates considerable understanding of the importance of the chosen fuel	– demonstrates a high degree of understanding of the importance of the chosen fuel
6	– clearly describes the risks and benefits of hydrocarbon fuels to society and the environment	– describes the risks and benefits of hydrocarbon fuels with limited clarity	– describes the risks and benefits of hydrocarbon fuels with some clarity	– describes the risks and benefits of hydrocarbon fuels with considerable clarity	– describes the risks and benefits of hydrocarbon fuels with a high degree of clarity

*The expectations that correspond to the numbers given in this chart are listed on page 83.

Note: A student whose overall achievement at the end of a course is below level 1 (that is, below 50%) will not obtain a credit for the course.