

**Heat Transfer Grading Rubric**

Name \_\_\_\_\_  
 Date \_\_\_\_\_ Period \_\_\_\_\_ Score \_\_\_\_/4

Category	4-Advanced	3-Profficient	2-Partially Proficient	1-Unsataisfactory
Drawings/ Captions  ____/4	___ Exceptional detail ___ Exceptional use of color for communication Example Identifying hotter and cooler parts of the system with color ___ Additional captions which add to the understanding of the demonstration Example: Identifying specific timing related to the heat transfer – how fast did the can spin after the heat was applied to the system compared to how long it took to melt the candle off of the metal rod	Drawing clearly illustrates the system used to demonstrate three forms of heat transfer ___ Color is used for clarification. ___ All parts are labeled Captions help explain procedure and scientific explanation included in demonstration ___ Radiation is the heat felt to the side of the flame ___ Convection causes the can to spin ___ Conduction causes the candle to fall off because of melting	One of the criteria for the 3-Proficient response is missing or incomplete.	Two or more of the criteria for the 3-Proficient response are missing or incomplete
Summary Paragraph  ____/4	Discussion includes additional insight relevant to the topic: ___ Specific cases of heat transfer in the "real world"- Example: Cloud formation is the result of convection currents that carry heat upward (along with water vapor) until the vapor is cooled to the point of condensation ___ A comparison of materials which conduct heat and electricity effectively. ___ Other (Describe)	Clearly explains how the system models the three types of heat transfer and the evidence we used to identify them: ___ Radiation occurs through space (heat felt to the side) ___ Convection is heat transferred through fluids that expand and move because of lower density (spinning can) ___ Conduction is heat transferred through solids (and restricted fluids)	One of the criteria for the 3-Proficient response is missing or incomplete.	Two or more of the criteria for the 3-Proficient response are missing or incomplete
Text Integration  ____/4	Discussion includes additional insight: ___ Explains why surfing is better in the morning because the off shore wind helps shape the waves ___ Explains why you shouldn't send your little brother out on a float in the afternoon ___ Other	A specific explanation/example from the text is included for ___ radiation ___ conduction ___ convection The summary paragraph and/or drawings/captions clearly indicate a connection between the text explanation/example and the demonstration. Highlight this work in your notebook. ___ radiation ___ conduction ___ convection Land/sea breeze explained ___ Water heats/cools slower than land ___ Blows toward land by afternoon because land has heated more than water ___ Blows toward the sea in the morning because water is warmer than the land (the land cools quicker/more)	One of the criteria for the 3-Proficient response is missing or incomplete.	Two or more of the criteria for the 3-Proficient response are missing or incomplete

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