Heat, Heat capacities, and Specific Heat Capacities Instructions for Submitting Answers

Answer the questions on Standard binder paper or type the answers. The answers should reflect clarity of thought: 1-2 sentences should suffice. Use good grammar, spelling, and syntax. Show your calculations with significant figures and units. The calculations should be easy to follow.

**Part One:**  Make sure your answers are clear, you will lose points for messy and unreadable answers

**Part Two:** Using the graph, the textbook, and other reputable sources.

**Part Three:** Solve the following problems. Put the final answers in the report sheet in the space provided. Attach the pages for Part 1 and Part 2.

**Phase changes**

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| 1. **How many Joules of heat were added to melt the ice and warm the resulting water to 21.00°C?** |  |
| 1. **How many joules are required to convert 10.0g of solid ethyl alcohol at -180.3°C to the vapor state at the boiling point of 78.3°C?** |  |

**Warming or cooling material**

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| 1. **What is the specific heat of the metal?** |  |
| 1. **What is the final temperature of the mixture when the two samples of water were mixed.** |  |

**Reactions in Calorimeters**

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| 1. **What is the heat of the reaction in kJ/mol of AgCl?** |  |
| 1. **(a) What is the heat needed or released when barium hydroxide mixes with hydrochloric acid?** |  |
| **(b)What is the temperature of the final mixture?** |  |

**Bomb Calorimeter**

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| 1. **What is the heat capacity of the calorimeter?** |  |
| 1. **What is the energy of combustion in kJ/g and kJ/mol of quinone.** |  |
| 1. **(a)What is the heat capacity of the calorimeter using benzoic acid as a standard.** |  |
| **(b)What is the energy of combustion of vanillin in kJ/g?** |  |