***THE GRADED ONE!!!!!***

***6. (AD ASSESSMENT) A curious student wanted to know if the calorimeter would work using different amounts of water. The table below shows the results from her burning three nuts of the same type and mass, but using varied amounts of water in the can. Explain from the table below if the calorimeter measured the energy in the nut properly when used with different amounts of water.***

|  |  |  |  |
| --- | --- | --- | --- |
| **Fuel Source** | **Mass of Water in grams** | **Temp. Change of water and then rounded temp change** | **Calculated Energy (show work below.)** |
| **Nut 1** | **200g** | **19oC** |  |
| **Nut 2** | **100g** | **39oC** |  |
| **Nut 3** | **50g** | **77oC** |  |

**1. Let's think about this in terms of energy transformation: Write the intended conversation that occurs when the nut is burned.**

**Now identify the following:**

**a. Independent Variable:**

**b. Dependent Variable:**

**c. What is held Constant:**

**2. From the constant: Since this factor is the same, should the energy outcome change?**

**3.Since you have values and energy must be determined you must have an EQUATION to complete this action. State it:**

**With this equation find the energy for each trial:**

**a. Nut 1:**

**b. Nut 2:**

**c. Nut 3:**

**d. Record these values in the table above (last column).**

**4. Answer: How do these values compare? Are they close?**

**If so does this show that the calorimeter works properly?**

**5. Another important point to discuss is the relationship between the amount of water and the temperature change. Round the temperature change to the 10's place. And examine how the temperature change changes as the mass is changed. Explain this relationship. Give an example (stove top experience) that shows this:**