**Biodiesel Analysis**

*Based on important properties you know about fuels and your understanding of calorimetry you will plan an experiment to analyze your biodiesel. Use the document below or one provided by your teacher to help guide your work.*

**Purpose:** Congratulations! You perfected the synthesis of your biodiesel. Now you have to prove that your product is better than other fuel options. Your analysis will include 3steps. First you will examine information about other fuels. Second, you will determine what information you need to collect. Third, you will complete your analysis.

**Information about other fuels**

What other fuel(s) are you going to compare your biodiesel with (circle at least 1)?

|  |  |  |  |
| --- | --- | --- | --- |
| Regular Diesel | Gasoline | Ethanol | Other Biodiesel |

1) Density of the fuel circled above: \_\_\_\_\_\_\_\_\_ g/mL

2) Molar mass (molecular weight) of the fuel circled above: \_\_\_\_\_\_\_\_\_\_ grams/mole

3) How much energy is contained in the fuel circled above?

\_\_\_\_\_\_\_\_ joules or calories (circle one) / mole or grams (circle one)

 *(Repeat 1-3 for all of the fuels you circled***)**

**Planning your investigation**

1) What information will you collect? (Hint: Think about the units you need to compare your fuel with the fuel above).

2) How will you collect the information? (Hint: Think about which measurement will you take for each of the units listed above).

**STOP:** Check your plan with your teacher before you begin work in the lab.

**Experiment**

*Procedure*(use this space to write notes about what you did in lab)**:**

*Data* (use this space to record the data you collect)**:**

**Analysis**

*Use this space to calculate how much energy was released from your biodiesel:*

*Use this space to calculate the mass and/or moles of fuel you used:*

*Use this space to calculate the amount of energy in a gram or mole of your fuel:*

*Use this space to make any other calculations you need to for your fuel (for example the density):*