**Lab Reports**

**(Student design)**

Use this guide to write lab reports. Organize the report in the same order as the topics below.

**PRE-LAB**

 ***Heading*** - include the title of lab, your name, name(s) of partner(s), class period, and

 date(s) of lab.

 ***Objective***  - write one or two sentence(s) stating the goal and

 predicting outcomes.

 ***Experimental design*** - develop an initial plan for accomplishing objective.

 ***Materials***  - list essential materials specific to this lab.

**PROCEDURE-** Write sequential (numbered) instructions to accomplish this lab.

 (Based on this section, someone else should be able to repeat it)

**OBSERVATIONS/DATA**- Record all your quantitative and qualitative results. Data should be in a data table. Observations should be in complete sentences (what was heard, seen, smelt, felt and changes that occurred).

**ANALYSIS** - Use necessary means to interpret data/observations (include mathematical formulas, graphs, etc.)

**CONCLUSION** - In paragraph form, draw conclusions based on your objective, observations/data, and analysis. Use the Claim, Evidence, Reasoning model or **CER model and error analysis.**

* **Claim:** restate your hypothesis/answer your question again. Was your hypothesis correct? If so, restate it. If not, change it in the claim.
* **Evidence:** put your data into words. Describe exactly what happened and whether that supports your hypothesis or not (a minimum of 2-3 pieces of evidence are required). Examples of evidence include observations, data, analysis.
* **Reasoning:** try your best to explain **why** the results occurred using your **scientific knowledge and vocabulary terms**.
* **Error Analysis:** List a minimum of one source of error and how you would change/alter the lab if you could repeat the lab. (improvement). This is not a human error but an error within the procedure or controls held constant within the lab.
* **Components used in a sample conclusion-Here are the components that should be written in paragraph form.**

**(Claim)** We found thatFat and soap are different substances.

**(Evidence)** The fat is off-white and soap is milky white. (#1) Fat is soft-squishy and soap is

hard. (#2) Fat is soluble in oil, but soap is not soluble. Soap is soluble in

water, but fat is not. (#3) Fat has a melting point of 47° C and soap has a

melting point above 100° C. (#4) Fat has a density of 0.92 g/cm3 and soap

has a density of 0.84 g/cm3. (#5)

**(Reasoning)** These are all physical properties. Because fat and soap have different properties, I know

they are different.

**(Error**) When the fat and soap were being dissolved in water, the water temperatures were not held constant. Tap water with varying temperatures was used. This could have altered the results. Room temperature water should be used to eliminate this source of error.

**SCIENTIFIC WRITING**

 Verbs- present tense (up to conclusion)

 Point of view-objective 3rd person

 NOT “you” or “your”

 “I” or “we” only in conclusion

 Word Choice-appropriate scientific vocabulary

 Conventions-spelling, punctuation, capitalization, sentences

 Legible-neatly written or printed, NO erasures (single line through deleted material)