

Types of Chemical Reactions Lab Report

Honors Chemistry

Title & heading (see “Lab Report Tutorial” from beginning of year)

Introduction:

- Why is the lab being conducted?
- State objectives, explain how it relates to what we’re doing in class.
- Provide background information on the topic from the intro in your lab.

Procedure:

- How was the lab conducted? What *exactly* did you do, step-by-step?
- This should be very detailed, with exact measurements of how much of each substance you used, as well as the lab equipment used (remember: someone with no science knowledge should be able to reproduce your experiment from this)
 - Yes, you need to include what I did in the demos
- Do NOT include descriptions of what happened as you performed each step (for example, “5 mL of hydrochloric acid was added to the sodium bicarbonate and distilled water, which caused it to fizz.” You do not need to say “which caused it to fizz”). That will come in your data tables in “Results”.

Results:

- Reproduce everything under “Data” in your lab.
- Data tables-- title them Data Table 1 and Data Table 2
 - **NOTE:** if you want to include your answers to #1 in the “Questions” section (balanced chemical equations) in your tables, that’s fine! If you do that, put #1 in your questions and write “See data tables”

Discussion:

- What do your results mean? State what type of products were produced in each chemical reaction. Remember, each double replacement reaction should have formed either a precipitate, water, or a gas.
- Were your results accurate? Why do you think so?
- How can you apply the information learned? Here, I want you to include your answers to the “Real-World Chemistry” questions, as both of these involve how this information is applied. Discuss why acids are not stored in steel containers (*hint: look at your results from test tube #2*), as well as why using a basic solution to clean up an acidic solution makes sense to neutralize it (*hint: NaOH is a strong base, HCl is a strong acid*). You may research more for this section to support your claims if you’d like – just make sure to cite your sources.
- Last, I want you to research and give examples of **each type** of reaction that happens in the “real world,” give the equation, and explain the reaction. Example: “A common real-world combustion reaction occurs between propane, which is found in gas grills and

fireplaces, and oxygen. The equation for this reaction is $\text{C}_3\text{H}_8 + 5\text{O}_2 \rightarrow 4\text{H}_2\text{O} + 3\text{CO}_2 +$ energy, and the thermal energy released is what allows food to be cooked on the grill or heat to come off of the fireplace.” (*hint: Google “real world chemical reactions”*)

Questions:

- Type your answers from the questions section here. Make sure to number them and use complete sentences, except for the chemical reactions. If you need help with putting subscripts on, ask me!

Conclusion:

- Recap the lab – summarize what you did, what results you got, and what the purpose was.
- Tie back into your introduction & objectives – did you achieve the goal of the lab?
- Refer back to your data to back up your statements.

General tips:

- Make sure to use the names of each substance when referring to it. Chemical symbols should only appear when you write the reaction.
- Double-space for editing purposes
- The more detail, the better
- Print out a copy to bring to class for peer-editing on **Wednesday, March 23**
- **Final drafts will be due on Thursday, March 24.** I expect you to staple together & turn in:
 - Your lab papers
 - Rough draft
 - Final draft