Chemistry Lab notebook example:

Date:

Experiment 6.4 -Density (This is the heading-the experiment title and number should be written here. This is slightly modified from our Chemistry book and is similar to experiment 1.0 in Physical Science)

Lab Partners:

Purpose/ Question: “to compare the density of liquids and solids “ (You can quote from your book)

Hypothesis: (If your books asks you to write a hypothesis please do so otherwise this is not needed)

Procedure: (This is a brief outline of the procedure from your book. Can be in a form of a list, flow diagram, or outline.)

Weight a graduated cylinder. Record the weight.

Individually measure and weight out 100 ml of vegetable oil, water and maple syrup using the same graduated cylinder. Calculate and record the weight of each liquid using the difference method. Record the data in the table below.

<table>
<thead>
<tr>
<th>Item used</th>
<th>Mass (g)</th>
<th>Volume (ml)</th>
<th>Calculated density (g/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>syrup</td>
<td>10</td>
<td>100</td>
<td>0.10</td>
</tr>
<tr>
<td>water</td>
<td>20</td>
<td>100</td>
<td>0.20</td>
</tr>
<tr>
<td>oil</td>
<td>25</td>
<td>100</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Density =Mass/volume

(Data/Results: (Your observations are data. Record everything you see or hear that may impact the experiment. May include temperature, color changes, form changes, weights, volumes, etc. Diagrams, tables, lists of results or a paragraph can be used)

Original weight of graduated cylinder (g)________ 10 grams ________

(Next, I recorded all the data in word form and drew a diagram. I was required to draw the diagram but since I don’t draw well I used words to assure I knew what happened in the experiment. The words may not be necessary for a person who draws well.)
• The vegetable oil floated on top.
• The water layer was in the middle.
• The syrup layer was on the bottom.
• The cork floated on the vegetable oil.
• The ice cube floated on the water.
• The grape floated on the maple syrup.
• The rock dropped to the bottom.
• My experiment looked like this diagram: (Your diagram will be labeled but I want to let you see the results so I will not label the diagram here.)

Calculations:

Density = Mass/volume

Syrup = 10/100 = 0.10 g/ml
Water = 20/100 = 0.20 g/ml
Oil = 25/100 = 0.25 g/ml

Conclusion/ Discussion:

The vegetable oil floated on the bottom. The water layer was in the middle. The syrup layer was on the top. The cork floated on the vegetable oil. The ice cube floated on the water. The grape floated on the
maple syrup. The rock dropped to the bottom. The different layers formed because different substances have different densities. The larger density will sink and be on the bottom, the smallest density will be on the top. The density tells us “how tightly packed the matter is inside the substance.” The more packed the matter is the higher the density. According to our data the density of liquids for lowest density to highest density is syrup, water and oil.

(Please note that the results we used for this example lab notebook page may not be correct but the density formula is correct. I want you to see the results of this experiment yourself so I am not giving you the proper results.)

In Biology, your results and data will many times be your diagrams that you draw from your dissections.

In Chemistry, your data may include a table of weights, measures, etc. Often you will record large amounts of numerical data during an experiment. It is normal for a scientist to create data tables for the recording of this data and to have them ready prior to experimentation. Your experiments will go much more quickly and be much more enjoyable if you create the data tables in your notebook prior to coming to the laboratory.

In Chemistry and Physics, you will occasionally need to do calculations. Write down any formulas that you use in your calculations. Report the result of the calculation with units.

Rules of thumb:

- Never remove the pages from your lab notebook.
- Always record entries legibly, neatly, and in permanent ink. Never use ink that runs. Pencil is never used!
- Start entries at the top of the first page.
- Date each page before you leave lab.
- Label all tables, figures, and calculations. It is very unlikely that you will remember each step or calculation once you leave lab.
- Never erase or remove material you have added. Do not erase errors. Erasing errors should be impossible, since ALL entries should be written in pen with permanent ink! Just draw a single line through any erroneous entry, and then add your initials. Enter the correct entry near to the incorrect attempt.

GRADING:

Grammar and punctuation will be considered for the grade in the outline and conclusion portions only; lab notes will be graded on content and completion. Make sure to record the names of your lab partners in your lab notes and get all the information you need from your lab partner before you leave class. If the book tells you to record something I expect that you will have recorded that in your notebook. You are welcome to make a table or chart when doing your outline of the things he specifically tells you to record so you remember to record them. Please make sure to label diagrams.