**Check off each item in the box on the left column (use an “X”) as you go along 🡪 [ X ]**



**General Criteria**

***Lab Reports must be completed by EACH student INDIVIDUALLY. It is an assessment grade.***

Check the word document settings on your computer:

[ ] 12 point BLACK Times New Roman or Arial font for text. Graphs and/or tables/charts may include color fonts.

[ ] 1 inch margins

[ ] Avoid using Personal Pronouns (“I”, “My”, “You”). Use impersonal pronouns (“one”, “it”)

[ ] Single space whenever appropriate.

[ ] Proper **heading**

######  *Name (upper left) Biology (upper right)*

 *Date Teacher, Class Day & Time*

B. **Report / Write-Up Components**

[ ] **Title** Place the **title** of the lab at the top center of the page leaving one space below the heading. The title should be descriptive. Do not simply state “Lab 1”.

[ ] **Introduction** (3 Parts)

[ ] Write: “**Purpose**” indented from the left margin, leaving one space below the “Introduction”.

[ ] Describe what the lab is intended to accomplish, what is the **question** at hand, or what is the **problem** to solve.

[ ] Write: “**Background Information**” (indent from the left margin as with the Purpose and leave one space below the “Purpose”.)

[ ] Include the major Physical Science concepts or terms that relate to the purpose of the lab you are studying.

[ ] Write: “**Hypothesis**” (indent from the left margin as with the Purpose and background information, leaving one space below the “Background Information”.)

[ ] Write an “educated” guess based on observation of what you expect the experiment to show, giving some reasonable explanation provided with your hypothesis. Use “If – then – because” statements when possible.

[ ] **Equipment**

[ ] Write: “**Equipment**” at the left margin leaving one space below the “Purpose” section.

[ ] LIST all of the equipment and materials that you used in the lab. This section should be in LIST or outline form. Do NOT write in paragraphs..

[ ] **Procedures**

[ ] Write: “**Procedures**” at the left margin leaving one space below the “Materials”.

[ ] If the procedures are provided, **summarize** the given procedures in your own words using **numbered steps**. Do not copy given procedures word for word, but you must reference your source.

[ ] If the procedures are provided and the teacher instructs you to use them “as is”, you do not have to reword, but you do need a reference (see next step):

[ ] Write: “*Refer to the [name the lab sheet or source by title] or text page [give text title, author, page] for detailed procedures*.”

 [ ] If procedures are not provided or if you need to include additional procedures, write **step by step**, numbered procedures showing a complete chronological summary of what was done in the experiment.

[ ] Use numbered steps; do NOT write in paragraphs.

[ ] **Calculations and Data**

[ ] Write: “**Calculations and Data**” at the left margin leaving one space below the “Procedures” section.

[ ] Include detailed observations of what you experienced or observed in the lab.

[ ] Include or create data tables and/or charts to organize and support your observations. Label all items and/or categories (e.g. units, titles).

[ ] Include a picture/drawing/sketch of major aspects of the experiment with a detailed explanation, showing the relevance of the image to the lab (2 minimum).

[ ] Include any calculations, showing equations/formulas used and all the steps of the calculations along with the correct units.

[ ] Answer any questions specifically included in the Calculations and Data section, numbering the questions and supporting the answer with data from the lab.

[ ] Do NOT include inferences, explanations, and/or conclusions in this section unless needed for questions in this section. These should be included in the Conclusion section of the lab.

[ ] **IF** the lab directions require a graph, analyze the **graph(s)** and explain it in paragraph form.

**[ ]** Plot the independent variable on the x-axis and the dependent variable on the y-axis.

**[ ]** Label the graph (title, axes) and use equal intervals on both axes.

**[ ]** After the graph, give an analysis: 1) state any relationship observed from the graph (*e.g.* *direct or inverse; if one variable increases what happens to the other factor?*); 2) give evidence from the lab/graph that supports your analysis.

[ ] **Conclusions**

[ ] Write: “**Conclusions**” at the left margin leaving one space below the “Calculations”.

[ ] **Restate and address your hypothesis**

[ ] Write “Address the Hypothesis” at the left margin leaving one space below the heading, “Conclusions”.

[ ] *State* *whether your hypothesis was correct or incorrect in a complete sentence that includes the original hypothesis*.

[ ] *Explain why your hypothesis was correct or not using your observations and data from the lab.*

[ ] Provide **in-depth analysis** of the data and observations in the lab.

[ ] Write “Analysis” at the left margin leaving one space below “Address the Hypothesis” section.

[ ] Prove by the use of **data and/or supporting evidence** that you understand the principle(s) or concept(s) demonstrated in the lab. This is often an extension of the “Background Information” from the Purpose section. Use that content and concepts with evidence from the lab.

[ ] Answer any **questions** included in the lab by NUMBERING them and making statements USING COMPLETE SENTENCES that convey a complete scientific thought.

[ ] Write “Questions” at the left margin leaving one space below “Analysis” section.

[ ] Do NOT copy and paste the questions in the conclusion section, but reword them to make concluding statements based on the questions.

[ ] You must also **provide** **supporting evidence** and/or data from the lab for each conclusion and conclusion question.

[ ] Include **errors** (*human error, experimental error, materials, procedural errors*) that were encountered and note why these errors occurred and how the error changed the result.

[ ] Write “Errors” at the left margin leaving one space below “Questions” section.

[ ] Sometimes the labs are “too perfect” because the results were done previously. Consider potential errors that would be made in a real-life situation.

[ ] You may also offer any ideas for relevant further study/research of this topic or scientific principle (this is optional).

[ ] **Bibliography** (Minimum 3 Sources)

[ ] Write: “**Bibliography**” at the left margin one space below the “Conclusions” section.

[ ] Must be in APA format. The following websites are helpful in understanding the APA bibliography format:

http://owl.english.purdue.edu/owl/resource/747/06/

<http://owl.english.purdue.edu/owl/resource/747/08/>

[ ] Alphabetize all sources.

[ ] Do NOT indent the sources, but begin at the left margin.

[ ] Leave ONE space between each source.

[ ] Sample Lab Reports are provided throughout the course. Review these for help.

[ ] You must use at least 2 non-textbook sources for all formal lab reports and include your textbook when relevant.

[ ] Be sure to have at least 3 citations in APA format. Samples given below:

Reference for the sources used in the **Lab Report**.

"Air is Stuff--show me more". *How Things Fly*. 07 July 1997. Web. 17 Sept. 2004. <http://www.aero.hq.nasa.gov/edu/airmore.html>

Reference used for lab directions or other information on **Study Place**.

Biology Course Site, Week 3. *Directions for Lab*. Learning CTR Online, n.d. Web. 9 Sept. 2020. <[www.learningctronline.com](https://www.pottersschool.org/teacher/)>.

Reference for your **Textbook** or other book resources.

Hardin, Scott. **Science Shepherd Biology**, 2013 Edition. Ohana Life Press, LLC. (Print or Digital?).

* + Citing a web search engine (google, yahoo, etc.) or a Wiki (Wikipedia) is NOT acceptable. Avoid encyclopedia resources because these are not accepted as scientific.