



## BIO 120L Milestone One Guidelines and Rubric

The final project for this course is the creation of a scientific method presentation. For Milestone One, you will submit your **research question and background information**. Given an overview of the scientific method, you will formulate a research question in an *if/then* format that will be explored further throughout the term. Potential virtual lab topics are listed below. You may select one of these topics or, with instructor approval, choose a topic of your own. In addition, you will review various scientific journal articles that are related to your research question. Remember that you can use the [Shapiro Library](#) to find sources. You will build an understanding of the background information of previously conducted studies and use this information to build your experimental design, which is Milestone Two. You will cite at least three primary scientific sources.

Here are four virtual labs to choose from to assist you with your research, all of which can be found at the [Ask a Biologist](#) website:

- A Nervous Experiment
- Air Pollution
- Manduca Caterpillar Growth Experiment (Full Virtual Lab)
- When Water Gets Icy

You may select one of the topics listed here to formulate your research question, or you may design a research question of your own using another virtual site or hands-on experiment. If you decide to design your own, you must receive prior approval from your instructor.

Specifically, the following **critical elements** must be addressed:

### I. **Background Information**

- A. **Research Question:** Propose a research question that can be answered using the scientific method.
- B. **Significance:** Describe the broader significance of this experiment and its results to the field of biology. Have similar experiments been conducted? In other words, how does this experiment relate to basic principles of biology and previous experiments?

**Guidelines for Submission:** Submit a 1- to 2-page Microsoft Word document in an outline format or bulleted list using double spacing, 12-point Times New Roman font, one-inch margins, and at least three sources cited in APA format.

**Instructor Feedback:** This activity uses an integrated rubric in Blackboard. Students can view instructor feedback in the Grade Center. For more information, review [these instructions](#).

**Rubric**

<b>Critical Elements</b>	<b>Proficient (100%)</b>	<b>Needs Improvement (75%)</b>	<b>Not Evident (0%)</b>	<b>Value</b>
<b>Background Information: Research Question</b>	Proposes a research question that can be answered using the scientific method	Proposes a research question, but the question is not answerable using the scientific method	Does not propose a research question	40
<b>Background Information: Significance</b>	Clearly describes the broader significance of the experiment and its results to the field of biology and similar experiments that may have been conducted	Describes the broader significance of the experiment and its results to the field of biology and similar experiments that may have been conducted, but with gaps in clarity or detail	Does not describe the broader significance of the experiment and its results to the field of biology and similar experiments that may have been conducted	40
<b>Articulation of Response</b>	Submission has no major errors related to citations, grammar, spelling, syntax, or organization	Submission has major errors related to citations, grammar, spelling, syntax, or organization that negatively impact readability and articulation of main ideas	Submission has critical errors related to citations, grammar, spelling, syntax, or organization that prevent understanding of ideas	20
<b>Total</b>				<b>100%</b>