# Unit 10: Independent Research

Content Area: **Science**
Course(s): **AP Biology**
Time Period: **June**
Length: **4 weeks**
Status: **Published**

## Enduring Understandings

The student can plan and implement data collection and data analysis strategies appropriate to a particular scientific question

The student can use representations and models to communicate scientific phenomena and solve scientific problems

## Essential Questions

Which scientific problems require further research?

What is the proper way to design an experiment?

Does the experiment need to be refined in order to collect high quality data?

Will the data answer the scientific question?

What are the best methods for data analysis?

What is the best way to represent and communicate the data?

## Content

Experimental design

## Skills

1. Explain biological concepts, processes, and models presented in written format.
2. Analyze visual representations of biological concepts and processes.
3. Determine scientific questions and methods.
4. Represent and describe data.
5. Perform statistical tests and mathematical calculations to analyze and interpret data.
6. Develop and justify scientific arguments using evidence.

## Standards

## Resources

College Board AP Central: https://apcentral.collegeboard.org/courses/ap-biology/course

College Board AP Biology course and exam description manual: https://apcentral.collegeboard.org/pdf/ap-biology-course-and-exam-description-0.pdf

AP Biology Lab Manual:

https://apcentral.collegeboard.org/pdf/ap-biology-teacher-lab-manual-fall-2019.pdf?course=ap-biology

AP Biology Classroom Resources: https://apcentral.collegeboard.org/courses/ap-biology/classroom-resources?course=ap-biology

Khan Academy AP Biology: https://www.khanacademy.org/science/ap-biology

Bozeman Science AP Biology videos: http://www.bozemanscience.com/ap-biology

HHMI Biointeractive: https://www.biointeractive.org/