

Biology 155a
Project Laboratory in Genetics and Genomics
Writing Assignment 5

The Research Paper: Overview

One of the major goals of this class is to learn to write a research paper. Since we are doing experiments in class, it is natural to write up what we are doing and what we find in the form of a research paper.

We are all familiar at this point with research papers, but may not have written many ourselves.

A research paper is the currency, the mainstay of scientific information. This is the place where new results and ideas are communicated to other scientists. Most of the facts you learn in a science lecture or textbook are actually interpretations of data that were first described in the form of a research paper.

A research paper is essentially an argument. In a research paper, the authors put together various observations and pieces of data to come to some sort of conclusion. It is written for other scientists, but, because science encompasses many fields, is often written in a way that can be understood by someone educated in science though not necessarily in the field under study.

The format, style, organization, and level of detail of research papers vary depending on where they are published. Some journals, such as *Science* and *Nature*, emphasize short papers without a lot of primary data. Others, such as *Cell*, *Genetics*, and *Genes & Development*, are more complete and thorough. In addition to differences in length, the organization of the papers varies depending on the journal.

To make the process of writing a research paper easier and more deliberate, we will break up the assignment into small parts. You will get a chance to write up each section, receive feedback, and then incorporate this feedback into a final research paper in which you put all of the pieces together.

Please choose one of the projects we talked about and then think about the answers to the following questions -

What are we studying?

What question are we asking?

Do we have a hypothesis in mind?

How will we go about answering the question?