

Research Papers in the Sciences (Undergraduate)

Scientific research is shared through scientific research papers. It's considered part of the duty of the scientist to share information with the scientific community. There are three important things to keep in mind when writing a scientific research paper as an undergraduate researcher. First, the paper should be written understandably for an audience that may know nothing about the research. Second, the paper should be written in enough detail so that the experiment can be replicated to show the legitimacy of the findings. Finally, it's important to know what else is being discussed on your topic in the scientific community and to then write your own paper within that context. This last part is crucial because conveying how your research builds on and affects other research—why your research is important—is the primary goal.

Main Sections

At minimum, the scientific research paper should be split into titled sections based on the following components. (Please note that although citations aren't addressed and aren't in the examples because the focus of this handout is the content, citations should be used throughout the paper for any ideas that are not your own.)

Abstract

Abstracts are used to quickly convey to the reader what your paper is about so that they can decide if the topic is relevant to their interests. It's a 150- to 250-word paragraph that should summarize your introduction, materials and methods, results, and conclusions. Note that the example below is a full example while the other examples in this handout are all abridged; in a real scientific research paper, the level of detail in the abstract should be less than the level of detail in any of the other sections (as abstracts should be brief)