

A primary research article is a scientific paper where researchers share original data from experiments or observations they conducted themselves. These articles are used to introduce new findings to the scientific community. Most primary articles follow a standard format, including an abstract, introduction, methods, results, and discussion. The introduction explains the background and purpose of the study, the methods describe how the experiment was carried out, the results present the data, and the discussion explains what the findings mean. Because primary articles include raw data and detailed methods, readers can judge the quality and reliability of the research on their own.

A review article does not include new experimental data. Instead, it summarizes and analyzes results from many primary research articles that focus on the same topic. Review articles are usually written by experts and are meant to give readers a broad understanding of what is already known in a field, along with any major patterns or gaps in the research. Rather than having sections like methods and results, review articles are organized by themes or subtopics within the field. These articles are especially helpful for students because they provide background information and help place individual studies into a larger scientific context.

The scientific peer review process is the system used to determine whether research articles should be published in scholarly journals. After a paper is submitted, the journal editor first decides whether it meets basic standards and fits the journal's focus. The paper is then sent to independent experts in the same field, known as peer reviewers, who evaluate the study's methods, data, interpretations, and overall quality. Reviewers recommend whether the article should be accepted, revised, or rejected, and they provide detailed feedback. Authors often need to make changes based on these comments before the paper can be published. This process helps ensure that scientific research is accurate, credible, and trustworthy.