

Junior Science and Humanities Symposium *Research Paper Outline*

A component of a submission for JSHS is a research paper that gives details about the students research. The paper should be a **minimum of 5 pages and a maximum of 40 pages double-spaced**, including appendices and references. Photography, graphs, tables, diagrams, charts, or other graphic representation presented in the paper must be simply presented. The paper must be in APA Style student format. For help with APA, see the [APA Guide](#) and [Purdue OWL](#). Additional breakdowns of each section can be found [here](#). All sites also have [sample papers](#) as examples.

Below is a recommended outline for papers:

- **a title page, or cover page** stating the student's name, school address, and title of the research,
- **acknowledgement of major assistance received**, as applicable, statement that "research involving non-human vertebrates or human subjects was conducted under the supervision of an experienced teacher or researcher and followed state and federal regulatory guidance applicable to the humane and ethical conduct of such research",
- **table of contents** with page numbers of each section
- **Introduction**
 - This section should address *why the topic is worth studying*. It should **explain background** about the topic, **explain previous research** done on this topic, and **identify holes** in research on the topic. It should show that there is a need for this particular study.
- **Materials and Methods**
 - This section should explain *what was done in the study*- what was the **experimental design**, what **materials** were used, what **procedures and protocols** were followed ect. Describe how the experiment was done.
- **Results (data or findings)**
 - This section should illustrate *what you found*. This should include **data** that was collected (can be presented in tables or graphs or words), any **images** or other sources of data, and any additional **analysis** that was done with data.
- **Discussion and Conclusions**
 - This section explains *what your results mean*. Discuss what the data from this experiment means and what does that mean in terms of the background information that was discussed in the introduction. Why are these findings important? Are there any conclusions that can be drawn? Are there any future experiments that should be done based on these findings?
- **References, or literature cited, and appendices**
 - Any citations that are used as a reference and any additional raw data that might need to be included.