

# IRP COMPOSITION BOOK OUTLINE

Complete each section in order. DO NOT move on to another section without completing the previous one. *After each section, leave a page or two for possible corrections.* If you make a mistake, DO NOT erase it, rip it out, or scratch it out! Leave your mistakes and simply put a line through it, so if you need to, you can read it later. Your entire compbook must be **handwritten!**

Your compbook should show your thinking throughout the experimentation process. It will not be pretty, but it will be used as a rough draft of your final powerpoint presentation. If it exactly matches your powerpoint you will lose credit on this assignment!

**WORK CITED:** in the **BACK** of your comp book, begin a work cited page- properly cite all the references you obtained information from in **MLA** format.

- You will need a minimum of 10 references and 3 different sources (journal article, newspaper, internet, book, interview, textbook, etc.)

**RESEARCH:** start with a broad topic to research (ex: sports), as you read about your topic begin to narrow it down (ex: football), narrow your topic down more (ex: the football itself), narrow down topic more (ex: the materials the football is made of), narrow down topic even more (ex: the leather the football is made), start asking questions about your specific topic (ex: Why does football leather not absorb water when it is wet?), if you find the answer to your question, you need to ask a new question based on the new information, repeat this strategy until you can't find an answer to your question and this is the question for your project!

**QUESTION:** develop a *high level question* about your topic that can be tested (explained above)

**HYPOTHESIS:** develop a possible explanation for your question that can be tested.

**EXPERIMENTAL DESIGN:** write your CLAIM in proper format (prediction + hypothesis), determine your:

- independent variable (and the levels of the IV- minimum of 5)
- dependent variable
- controls & constants
- trials (minimum of 10)

**PROCEDURES/METHODS:** write out your procedures step by step (should be complete sentences, numbered, and have detail), if your project involves any of the following, turn in the proper ISEF forms to Mrs. Martin for approval (or you will be disqualified and docked points)

- humans subjects
- vertebrate animals
- potential hazardous biological agents (microorganisms)
- viruses

- hazardous chemicals
- weapons (firearms, knives, explosives, etc.)
- fire

To determine if you need special forms, visit:

<http://apps.societyforscience.org/isef/students/wizard/index.asp>

**If in doubt- talk to Mrs. Martin!**

**MATERIALS:** list all materials needed to perform the procedures

**DATA:** collect data in the best form for your experiment (data table, observations, etc...)

**WRITTEN RESULTS:** write out the overall trends of your results, DO NOT write out everything the data says- the data table gives each detail so you don't need to write it out word for word

**DISCUSSION:** state the conclusions of your project by stating:

- the purpose of your project
- stating the question that lead to the experiment
- restate your claim
- discuss how the data from the experiment supports the claim or not
- give full explanations,
- discuss possible errors,
- give improvements for making the experiment better
- suggest a further study