



Science & English Investigation Research Paper (GATE)

Due to Science Teacher for grading on _____ Due to English Teacher for grading on _____

What the science teachers expect:

- * 4-7 pages of text that is 12 point Times Roman font, double spaced, 1.25 inch margins. Use a cover sheet for the title, as shown in English class.
- * 20 or more note cards with proper source citation; sources should include at least one each from the following: encyclopedia, magazines & journals, newspapers, and books. An interview with an expert in the field is **STRONGLY** encouraged (extra points for this!) Sources from radio or video are also welcome as long as they are clearly cited.
- * careful, logical thinking that clearly and thoroughly explores your subject of interest.

What the English teacher expects:

- * Your English teacher will tell you in class! (Great writing.)

The Plan:

You write the research paper using your best intelligent ideas and most profound thoughts for the science teachers. Later, you will rewrite the paper with the same ideas, only using better language skills, for the English teacher. You will then use your beautifully written, well-researched paper as your background research report to be included with your science project that is due in March. This background research will give you a better understanding of your independent science investigation project.

Topics in the research paper should include:

An overview (at the level of a junior high science textbook) that explains the general field of interest that guided you to the topic you are studying.

More detail of what you are investigating, specifically. Has your experiment been tried before? What were the results? Are you modifying the experiment in some new way, or are you trying to confirm previous results?

What is already known about your specific topic, at about a 9th -10th grade level of understanding (a little harder than your textbook, as from a high school textbook).

Some ideas to consider for writing:

- How does matter at the atomic/molecular level affect your experiment? Do electrostatic forces affect the situation? Should you study the matter at microscopic (but larger than atomic) scales of size? What is the structure of the matter?
- Complete analysis of physical and chemical properties of any materials involved.
- What kinds of energy are involved in your investigation, and in what form (kinetic, potential, radiative, chemical, etc)? How does that affect your subject?

- How does energy flow (transfer) through the system?
- Tell us about the instruments, if any, used to collect data. How do they work, how are they made, what are their sources of uncontrollable variation (error)? Could better instruments be invented in the future to study this topic?
- Is there a clear cause /effect relation involved in your topic of study? Why?
- Are there any equations that describe relationships among the variables of your experiment? (You may discover this by doing your experiment, or maybe they are already known.)
- Are there social implications of the situation you are studying?
- How is this knowledge used in society today? In the past?
- Are there industrial / technological / commercial applications?
- Does your topic of interest have potential applications that would help solve social or environmental problems today?

Any one of the above prompts could trigger a more detailed analysis and study for your research paper. Please do not go through these like a checklist... your particular project may require that you focus your research on only one or two of these ideas.

Timeline:	Date	
Day 1	_____	Write 2 notecards
Day 2	_____	Write 2 notecards
Day 3	_____	Write 2 notecards
Day 4	_____	Write 2 notecards
Day 5	_____	Write 2 notecards
Day 6	_____	Write 2 notecards
Day 7	_____	Write 2 notecards
Day 8	_____	Write 2 notecards
Day 9	_____	Write 1 paragraph
Day 10	_____	Write 1 paragraph
Day 11	_____	Write 1 paragraph
Day 12	_____	Write 1 paragraph
Day 13	_____	Write 1 paragraph
Day 14	_____	Write 1 paragraph
Day 15	_____	Write 1 paragraph
Day 16	_____	Write 1 paragraph
Day 17	_____	Write 1 paragraph



X-----X-----X

I have read the above research paper project timeline. I will help my student reach these goals on time each night, to avoid procrastination. I know the paper is due on _____.

_____ (parent signature). Student Name: