

AP Chemistry Project – Science research in today’s developing society

Purpose:

Students will investigate a current technology or everyday phenomenon. Students will research and provide explanations for how this technology or phenomenon works. This will include at minimum:

- 1) Detailed explanations for mechanisms of development and operation.
- 2) History of development
- 3) Significance to society
- 4) Barriers to research or any other important information

Students will create a presentation with illustrations, PowerPoint and other hands on tools to be able to teach the class.

Step 1 Choose a topic: (Due by Monday June 20th)

Select three potential topics. Investigate the science and resources available.

Here are some websites to get you started: (there are many more links out there)

[Science Daily – Chemistry](https://www.sciencedaily.com/news/matter_energy/chemistry/) -

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[Scientific American](http://www.scientificamerican.com/) - <http://www.scientificamerican.com/>

[Popular Science Magazine](http://www.popsci.com/) - <http://www.popsci.com/>

[American Chemical Society High School Periodical](http://www.acs.org/content/acs/en.html?_nfpb=true&_pageLabel=PP_SUPERARTICLE&node_id=2119&use_sec=false&sec_url_var=region1&__uuid=6d53511f-6dcd-4cd2-ad7a-305419371ed) -

[http://www.acs.org/content/acs/en.html?_nfpb=true&_pageLabel=PP_SUPERARTICLE
&node_id=2119&use_sec=false&sec_url_var=region1&__uuid=6d53511f-6dcd-4cd2-
ad7a-305419371ed](http://www.acs.org/content/acs/en.html?_nfpb=true&_pageLabel=PP_SUPERARTICLE&node_id=2119&use_sec=false&sec_url_var=region1&__uuid=6d53511f-6dcd-4cd2-ad7a-305419371ed)

[Science Magazine](http://www.sciencemag.org/) - <http://www.sciencemag.org/>

[National Geographic](http://www.nationalgeographic.com/) - <http://www.nationalgeographic.com/>

[Nature Magazine](http://www.nature.com/nature/index.html) - <http://www.nature.com/nature/index.html>

[Smithsonian Science](http://www.smithsonianmag.com/ist/?next=/science-nature) - <http://www.smithsonianmag.com/ist/?next=/science-nature>

Once you have a topic chosen, you will then find at least 6 sources to develop further knowledge on the subject. This includes the science involved, alternative similar research efforts, benefits to a society, company development, popular demand, effects on society, any negative impacts, etc.

Step 2 Presentation:

Now that you have a topic, you will need to be able to explain the science. For example, if you choose the topic “Development of the new super battery” be able to explain the old technology of how a battery works. Be able to explain how this new technology is improved and beneficial to society. Describe any hurdles, setbacks, personal opinions, competing ideas, companies interested, etc.

You will create a video to present to the class. You will be teaching the class about your topic and you will need to give a 10-15 minute video presentation. Include in the presentation:

- 1) The actual current event or scientific development
- 2) The benefit to society, or problem alleviated
- 3) The science behind the development related to chemistry
- 4) Information on the specific general field. (For example if presenting on batteries talk about the companies involved, government programs, scientists, universities, economics, anything else that may be relevant to the topic)
- 5) Visuals. Include images, videos, hand outs, hands on demonstrations, etc.
- 6) Your own personal opinion on the subject. Do you think the ideas are beneficial or a waste of money? Is it possible? Etc.

Presentation dates will be decided after we return to school. Your video can reach many formats (documentary, animations, ted talks, skits, news broadcast, etc.) be creative. You may use images, videos, props to enhance your video. Remember your presentation is you speaking to the class not reading from a paper or your presentation slides, you may use parts of ted talks or broadcasts but the information has to come from you.

Work Cited: All sources must be cited, emailed to me separately (at least 6 sources, you may use Wikipedia, as only one source). Use citation format found at.....

<https://owl.english.purdue.edu/owl/>

Grading:

The project will be worth 100 points a rubric will be provided based on the following criteria (more coming soon)

Summary of three topics with relevant information in 2-3 paragraphs	(1-10)
Students demonstrate knowledge of the topic, provide background information to the readers	(1-10)
Students provided relevance of the topic to society	(1-10)
Students informed the main stakeholders behind the technology	(1-10)
Students explained the concepts behind the ideas	(1-10)
Students provided their own opinion on the subject	(1-10)
Presentation (consistent formatting, use of images, working links, etc.) (a presentation rubric will be used)	(1-10)
Work cited with at least 6 sources, cited in MLA or APA format	(1-10)