

Dear Stem 9 graduate,

This letter is to welcome you to Stem10 Physics and Engineering. Welcome to Stem 10 Physics and Engineering! The rest of the letter will describe the summer assignment for the course.



The future of our nation and indeed all of human kind will depend on success in developing alternatives to fossil fuels. Over the summer break, I am going to ask you to investigate some of these alternatives.

First, Read *The Power of Renewables* pages 56-61 in the March 2009 issue of Scientific American. You can pick up a copy by stopping in Room A11. The article can also be found at <http://www.scientificamerican.com/article.cfm?id=how-renewable-energy-and-storage>. The article addresses both **Generating Electric Power** and **Storing and Delivering Power**. Choose **one** technology from **each area** to research. Write a paper that summarizes your research. This paper will be due the first day of class and will be submitted electronically.

The paper should address the following questions:

- How do the chosen technologies work?
- Where and to what capacity are the chosen technologies currently being used?
- What are the advantages and drawbacks of the chosen technologies?
- What future developments will enhance the use of the chosen technologies?
- What questions did your research generate?
- What possible science fair projects might *stem* from this research?

Sources used in the paper should be properly cited. There should be a minimum of three sources. The paper should be no more than 1000 words excluding bibliography. The paper should be double-spaced with 1” margins and size 12 Font. Please email any questions to [caskinner@smcps.org](mailto:caskinner@smcps.org).

Possible sources:

- <http://www.eere.energy.gov/>
- <http://www.scientificamerican.com>

I look forward to seeing you in August. Have a great summer!

Mr. Skinner