Note: The questions asked below and on the Final Exam may come from the YouTube video, the articles that I have asked you to read, and/or other articles on the Class Web page related to this course.

1) Watch the following YouTube video:

How is Cement made
uploaded by dalmiacementindia
https://www.youtube.com/watch?v=VOJ96qQEW8s

2) Read the following Internet articles:

a) AboutCivil.org: Cement: How cement is made, types of cements, specification, applications and admixtures of cements

b) PCA (The Portland Cement Association): How Cement is Made

c) Composition of cement: CE 584: Concrete Materials and Properties, Penn State Civil and Environmental Engineering Department
   http://www.engr.psu.edu/ce/courses/ce584/concrete/library/construction/curing/Composition%20of%20cement.htm

d) The Science of Concrete by Dr. Jeff Thomas and Dr. Hamlin Jennings, Northwestern University
   http://iti.northwestern.edu/cement/index.html

Lab Report

Note: The answers to the following questions will be included in the Appendix of the Sand gradation Lab Report.

Report Discussion Questions:
* 1) a) What is/are the difference(s) between concrete and cement?
* b) What is the difference between concrete and a hardened cement paste?

2) Name at minimum 3 types of cement mixtures.
3) Describe the process from the gathering of the raw materials to the finished cement product.

4) Name at minimum 3 possible health effects from breathing cement kiln dust and/or cement dust.

5) Name at minimum 3 properties of cement that are tested in laboratories.

* 6) Balance the following equation:

Tricalcium silicate + Water $\rightarrow$ Calcium silicate hydrate + Calcium hydroxide + heat, where heat = 173.6 kJ

7) Why should you know anything about cement?

Works Cited
