8+ homework Due Oct 2nd, 2018

Dear students,

This week's homework includes completing two labs: One on Surface area and weathering and a second on the Rate of Weathering.

The other part of the homework is reading of articles.The list of links is on the 3rd page of this homework assignment.

Name:

Copper Penny Oxidation Lab

Design an experiment that will demonstrate the process of oxidation on a copper penny. Make sure that your penny is dated 1982 or earlier. Pennies newer than 1982 don't show copper oxidation because they are mostly made out of zinc. Don't forget a control. Your group will receive three pennies. You will let this experiment run for a few days until each penny is very dry, so don't fill up your containers full of liquid. During that time you will take pictures each day at approximately the same height and angle from the pennies.

Materials you can use: water, salt, dilute hydrochloric acid, vinegar and distilled water. Please discuss with your group first before making a decision on how to proceed with this lab.

1. What question would be appropriate to ask before you begin?

2. What are the materials you decided to use?

3. What is going to be your control?

4. Create a step by step procedure, detailing quantities and each step required for your experiment.

5. Each day you will observe what is happening with each penny. Write those observations here.

6. Write a statement of conclusion. What did you prove and why do you think, based on knowledge from lessons, certain pennies oxidized quicker or more than others?

Source : EducationalResource.org

Earth Science.xyz

Here is a link lab to complete on Rates of Weathering:

https://drive.google.com/file/d/1KTV4GVPtDhVWu7is2Jiu33mxPuPdA6zO/view?usp=sharing

Articles:

https://www.nationalgeographic.com/science/earth/the-dynamic-earth/weathering-erosion/

https://phys.org/news/2017-05-weathering-poor-global-temperatures.html

https://www.sciencedaily.com/releases/2017/08/170801140535.htm

https://www.nationalgeographic.org/encyclopedia/weathering/

https://www.natureworldnews.com/articles/5909/20140206/weathering-mountainous-regions-act-thermostat-earth.htm

https://eos.org/articles/clues-found-that-earth-may-have-a-thermostat-set-to-habitable

https://www.jsg.utexas.edu/news/2016/04/chemical-weathering-controls-erosion-rates-in-rivers/

http://news.mit.edu/2015/bedrock-weathering-based-on-topography-1029

After reading the articles, please write a summary paragraph of each article. Then, Answer the following questions:

Questions:

1. Why is weathering important to Earth?
2. Is there a way to slow chemical weathering? Why might it be necessary slow chemical weathering?
3. Describe the relationship between chemical weathering and climate change.
4. Describe Halclasty and Honeycomb weathering. How are they different from the chemical weathering we discussed in class? Where would you find these types of chemical weathering and why?
5. Describe and contrast Karst and Spheroidal weathering. What locations and conditions are needed for these types of weathering?
6. What is the relationship between chemical weathering, erosion and rivers?
7. How does topography predict Bedrock weathering? When and why might this be important to know?