Honors Geology Summer Homework
Geologic Field Trip

Geology, like all sciences, is based on observations. "Observing geologically" takes some practice and patience, however. We'll be taking at least one field trip during the class and I need you to take a "field trip" this summer to practice "observing geologically". There are MANY places nearby that are interesting and geologically unique so you won't have to travel far if that isn't feasible. The essence of what I'm hoping for is simply your observations and questions about a landscape that you find interesting. I'll provide an example at the bottom of this document if this is really unclear.

For the field trip you'll be taking:

1. Find a location where you can spend a minimum of 30 minutes observing the landscape. This means looking at a "view" of a large area. Ideally, this would be a place where you can sit or lie down, rather than look out a window of a moving vehicle but I understand the limitations we all face. *(Some are so close…Waterboard Park Overlook, Canemah Park, Clackamette Park, Oregon City High School Jackson Campus, the Bluff overlooking the Willamette…the list goes on and I've included more ideas at the end of this document.)*

2. Submit your "field trip location" to me via e-mail by the due date. In the subject line write: "**Geologic Field Trip: <Insert your name> and in the body describe the locations where you'll be taking your field trips.**

3. Find this place on Google Maps or an app on your phone and print/save/screenshot a map of your location at a reasonable scale. It doesn't have to be precisely where you were standing/sitting but at a scale where you can mark where you were within 0.5 miles.

4. Go there and spend some time. Make a sketch of the scene or take several pictures that attempt to capture the landscape that is interesting to you. LOOK at the scene before you and think about why it looks that way. **(Keep in mind this might help you with your collections!)**

5. Make a list of at least 5 "geologic" questions you have about the scene before you. Geologic questions can take a variety of forms and range in scale from continental (i.e. How far away is the edge of the continent?) to regional (i.e. Why do these roundish hills occupy the area?) to local (i.e. Why is this cliff here?) to very local (i.e. What is it about the sand at this beach that makes is sparkle in the sunlight?) to microscopic (i.e. What are the tiny white blobs that stand out this rock) to elemental (i.e. What is the chemical make up of these tiny white blobs and is it different than the bigger black blobs?) You don't have to have questions at ever scale but a few questions at each scale is a good goal. Also please try to avoid the questions about human made structures such as, "Why are there so many houses there?"
   And please don't think you have to have answers to your questions. I wouldn't expect you to have answers to most geologic questions at this point! Just write the questions and the more the better!

6. Describe the rocks that you find interesting (big or small, human placed or naturally occurring) to the best of your abilities. **(Keep in mind this might help you with your collections!)**

7. **Prepare a ROUGH DRAFT field trip report of the location you've chosen. You'll be making a presentation of this trip during the first week of class.**

PLEASE DON'T SEND ME ANYTHING AT THIS POINT, UNLESS YOU'VE GOT QUESTION

Teamwork: You may work with other students in the class to complete this project, but *each student must turn in his or her own reports* with a unique set of questions. If you have questions or need clarification, please email me.
Again, please be creative in completing this project and DO NOT wait until a few days before to complete this task.

HEDEEN'S GEOLOGIC FIELD TRIP (AN EXAMPLE)

I spend part of my afternoons several days a week each summer at McIver Park along the Clackamas River. I have many favorite spots in the park but one that tops the list is a little overlook from which I can see the Clackamas River, several hundred feet below, trapped in a canyon and across the river, several ridges before Mount Hood dominates the skyline. **(Insert <u>labeled</u> photograph or drawing).**

Questions I ponder here are: Did the river once flow at the elevation where I'm sitting? If it did, how long ago did it flow here? What types of rocks/sediment are along the bottom of the river and is the same the length of the river or does it change? Why doesn't the other side of the river have a steep canyon wall? Why does the river make the large bend at this location? Which is older: Mount Hood or the Clackamas River? Are there rocks erupted from Mount Hood in the Clackamas River? Why does Mount Hood have the conical shape? Why does the "snow" stay on upper parts of that mountain but is absent from the closer ridges? What rocks make up Mount Hood? Why do the conifers grow at the water's edge and also on the away from the river but the deciduous trees only grow near the river? (Get the idea? I'm trying to give you examples of questions you *might* have!)

Rocks I've found here: dark gray, black rocks about the size of a basketball that look hard to break and soft, tan rocks that crumble easily that are a variety of sizes from sand grain size to the size of a watermelon.

Where should you go? It all depends on what makes sense for you:

- A National Park highlighting the local landscape: Crater Lake National Park, Mount Rainier National Park, North Cascades National Park, John Day National Park, Glacier National Park, Yellowstone National Park, Tetons National Park, etc.
- Any of the High Cascades Volcanoes including, but not limited to: Mount St. Helens, Mount Hood, Mount Rainier, Mount Baker, Mount Shasta, etc.
- A variety of locations along the Oregon, Washington or California coasts.
- Portland area locales: Mount Tabor Park, Rocky Butte, Council Crest, Forest Park, The Columbia River Gorge, etc.