

Arroyo Seco Field Trip Scavenger Hunt

Geology

Mr. Traeger

Name: _____ Period: _____ Date: _____

Answer the following questions concerning today's field trip. You need to *listen* to me carefully to get the right answers.

1. Consult the geologic map of the Pasadena Quadrangle. What kinds of rocks are mostly found in the local area? Are they igneous intrusive, igneous extrusive, sedimentary, and/or metamorphic? How old are most of the rocks?
2. How can you tell the difference between all of the rocks in the local area? What would you look for?
3. How were the San Gabriel Mountains formed? What is wearing them away? How does this affect the overall height of the mountains?
4. Why are there some areas of the Arroyo where the trees are green, even though the Arroyo itself is dry? Keep in mind that plants need water to stay green. Where is the water?
5. What is Devil's Gate Dam used for? What major project is being conducted right now there?
6. What will be the *first* thing to be carried away in a large flood? Silt, sand, gravel, rocks, or boulders? Why?
7. What will be the *last* thing to be carried away in a large flood? Silt, sand, gravel, rocks, or boulders? Why?
8. Did you see any signs that flooding had occurred in the Arroyo in the past? How do you know?
9. Describe the sedimentary column that we observed. Were the oldest rocks on the bottom or on the top? What do larger sediments in a layer indicate? What do smaller sediments in a layer indicate?
10. How do large rocks get broken down into smaller rocks? What are the methods of weathering/erosion?
11. What causes some of the rocks in the Arroyo to become rounded in shape?
12. What are the large rectangular pits (spreading grounds) used for? Why are these areas continually monitored by JPL and the City of Pasadena?
13. Where does Southern California get a lot of its fresh water from besides places like the Arroyo?
14. What is an earthquake fault?
15. What is the name of the earthquake fault that we saw and where is it?

Conclusion (Homework): Summarize the formation and geology of the San Gabriel Mountains in a short essay of no less than ½ page. Attach the essay to this document when it is finished.

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