Eaton Canyon Field Trip **May 20, 2010**
Combined 6th grade (Roger Gray, Marshall Middle School) and high school Earth Science (Jeremy Ervin, Marshall High School) classes
Leaders: Joel Scheingross, Jamshid Hassanzadeh, Janet Harvey, Jeffrey Thompson, Kristel Channard

Description:
We had two classes, a 6th grade class and a high school Earth Science class. We had 4 geologists, so divided each class into 4 groups, one group from each class going with each leader. The idea was to have the older kids help the younger kids. Most all the 6th graders were there (34) but only 15 high school students. There were no parent chaperones so each group had just a leader and an adult helper. Joel's group, with the girl who is blind, went downstream. The three groups went upstream.

All the geologists said it was hard getting the kids interested in the geology. Joel used the aerial photo and let the students try out his geology hammer and then use their magnifiers on the fresh surface. Janet had the kids read a topo map, pointed out faults along the way, and explored some minerology. Jamshid passed around some extrusive volcanic specimens to compare with the local igneous rocks, and had them use magnets to find a certain mineral. Jeff stopped periodically along the way to point out different features and to have them do a scavenger hunt for different types of rocks.

As for pairing the different grade levels, I don't think that happened. Although there were kids from both classes in each group, they did not mix much.

The 6th grade teacher Roger Gray offered to meet with us over the summer to talk about how to engage 6th graders. We are all very enthusiastic about this kind offer!

Comments by Joel:
Things that worked well:

- Students loved the rock hammer and hand lens. Everyone was excited to break off pieces of rock (but most weren't as excited about actually looking at the rock they broke off).

- Students were much more excited to play in the river than think about rocks. Maybe we can try some more focused in the water river activities for next time. We could try measure water velocity or look at insects in the stream. Students would need to get wet, but from what I saw today, students were pretty happy to get wet anyway.

- Students liked the air photo of Eaton Canyon. It's nice to have in the handout,

and easy for teachers to show back in the classroom (they can pull up google earth and look at everything).

In general, I think bringing more instruments or tools (e.g. rock hammer, flow meter to measure river velocity, etc) will be better. Especially if we have multiple instruments so all the students can get a chance to use them.

Things that didn't work great:

- It's hard to keep everyone's attention, especially with such large groups.
- Because my group couldn't walk very far, I had a hard time filling all the time with concrete material. I think being able to spend more time walking, and stop every few minutes is a much better strategy.
- We should try to come up with more hands on activities, because the students aren't interested in hearing any mini-lectures/overview talks.

Comments by Kristel:
Might help to meet in the classroom first, so the kids know who we are and so we can go over the activities.

Comments by Jamshid:
I didn't see the enthusiasm that I expected. Most kids didn't care and instead of listening and attending the discussion they preferred to either talk to each other or do text messaging. High school kids seemed entirely uninterested. Most kid got rid of the handout very soon. A few left theirs at lunch spot. I could cover only a few of the topics that I had planned for them because there remained little motivation.

Kids liked the magnet experiment but no one asked a question! To them it just looked "cool"! I used my geologic hammer on a granite boulder to chip off pieces for their examination. To them that sounded "cool" too. I realized that having their teacher along was helpful. He interacted with me and tried to keep students more engaged with the activity. I agree that the hike itself was fun for them and no doubt that reaching the waterfall cheered everyone.

Comments by Jeff:
Jeff, could you suggest an activity for next time – you had talked about one you had used with the Boy Scouts

Comments by Janet:
Any suggestions for next time?

Comments by Laurie:
Some suggestions to try for next time:
Alternate hiking with stopping and doing an activity

Let them make their own discoveries (inquiry based learning); have them do something ACTIVE:
e.g. If you see a fault, rather than pointing it out saying “Look at this fault!” try

- “Do you see an interesting geological feature?”
- If they don’t see it: “Look for an earthquake fault.”
- If they don’t see it, show them a picture in their activity booklet. Then wait.
- Then “Where else do you see this fault?” (It’s on the other side of the trail)
- “Can you stand on either side of it?” Have them DO this.
- “If the fault ruptured right now, which way would your feet go?”
- This could lead to more discussion like – what is the name of the fault system, how often does it rupture? Can we tell when it is getting ready to rupture?

e.g. If you see a dyke, rather than saying “Look at this dyke” Try

- “Do you see an interesting geological feature?”
- If not, then “Look at dykes in your activity book” Then wait.
- Is this a dyke or a vein?
- Where would you most likely find gems?
- What gem is in your activity booklet?

How old is the rock you are sitting on? What has it seen? Has it seen the dinosaurs? Has is seen the birth of any constellations?

Try giving them a mystery: If you were looking for gems, where would you look? Are there any gems here in Eaton Canyon?

Engaging students can be a challenge. Experiment with different ways! Each group of students can be different.