

Lesson Plan for “*See You as a Scientist! Research Adventures in the Transantarctic Mountains (TAMs)*”

By Lucy Coleman

**Overview:** Students will use the TAMMNET project and accompanying polarTREC resources to learn about seismology in the Antarctic, culminating in the creation of an annotated map using google maps.

**Objective:** Students will understand the different ways mountain ranges are formed, and appreciate the questions unanswered about the Transantarctic Mountains. Students will also appreciate the ingenuity required for doing research in the polar areas. Students will show their understanding by creating a google map of Antarctica annotated with fictionalized accounts of visits to research sites.

**Preparation:** Students should have a basic understanding of plate tectonics and activity that accompanies a geologically active planet. For completion of the culminating google maps project, students will need to have a google account.

**Procedure:**

1. Warm Up: students should write a journal response: “If you could go to Antarctica with a team of scientists, would you? What kinds of things would you anticipate experiencing?” Students can either pair-share or share to the class.

2. As a class, students should be introduced to the resources available on the polarTREC website, and as an opener, the teacher should select one of the short videos of Brian DuBay’s to show the class. Discuss some of the issues that make it a more difficult environment to do research in.

3. The class watches the videos and reads the journals as directed in the student handouts. This can be done as a whole class with discussion time and questions mixed in, or in pairs of students who each have a computer with internet access. Ideally, there should be time to explore Brian DuBay’s expedition resources, too.

\*4. The teacher can introduce them to google maps by showing [this video](#).

[http://youtu.be/\\_OnhEbwvJqc](http://youtu.be/_OnhEbwvJqc)

\* 5. Students will need 1-2 class periods to construct and edit their annotated place markers on the maps. If some are finishing early, encourage them to add pictures to the place markers or add another place marker based on information contained on the expedition website.

6. Wrap-up: Ask students to reflect either in writing or in a discussion about whether what they learned influences their desire to go to Antarctica. Can they see themselves as scientists?

**Evaluation:** Student learning can be assessed through their written responses to videos and journal entries of the expedition. Student achievement can also be monitored by reading their annotated maps.

\* Alternately, if the students don’t have adequate internet access to support the map project, they could simply complete the annotations in a travel journal style of writing, with modifications made to the student handout.

*Citations:* Joe Wood, the Technology Coordinator at Natomas Charter School, created the video demonstrating how to use google maps.