

Elizabeth Allen
Practicum in STEM Leadership

Leadership Project Proposal

1. **Title:** How Real-World Data Can Create the Phenomena to Get Kids Hooked

2. **Justification:** This school year the science department is experiencing quite a few changes to their instructional program. There has been new resource materials purchased, hoping to provide better alignment to the Next Generation Science Standards than their previous materials, the district has invested in providing professional development for Project Based Learning with the goal of implementation in all curricular areas, there is an expectation to provide authentic learning experiences for the students, along with a bell schedule change that has reduced the number of minutes science teachers meet their students. By incorporating NASA assets, which meet the NGSS, and can provide a variety of aspects to be incorporated in Project Based Learning, the teachers will have tangible materials to use right away.

3. **Proposed Audience:** The proposed audience in middle school science teachers. They will include six general education science teachers of grades six, seven, and eight, as well as special education teachers that may teach science in a resource room setting, or provide instruction in the general education setting for students with IEPs. These teachers provide science instruction for a combined 500 students within the three grade levels.

4. **Learning Goals:**

Grade 6 Teachers: (Adapted from Methods of STEM Education - Secondary)

- Using daily data from <https://volcanoes.usgs.gov/index.html> to develop where volcanic activity happens around the planet and explore the concepts of plate tectonics as well as hazardous natural events.

Grade 7 Teachers: (Adapted from Lessons from the Ocean)

- Exploring how estuary health and water quality is measured using <https://dataintheclassroom.noaa.gov/content/water-quality> to then examine estuaries in our local area and efforts in the community to restore the water quality.

Grade 8 Teachers: (Adapted from Math Connections in the STEM Classroom)

- Using real-world health data as collected from the CDC, <https://www.cdc.gov/datastatistics/index.html>, to explore the biology of human health and disease.

5. **Logistics of the PD:** The PD is scheduled for September 24, 2019, during a 45-minute after school session in the middle school media center. This will replace a required after school meeting for the teachers. The teachers will have access to their school-issued laptops, as well AV material on the Promethean Board in the media center.

6. **Expected Outcomes for Educators:**

- They leave the PD session with a sense of relief that this is accomplishable.
- They leave the PD session with a sense of excitement to bring back to their students.
- They have tangible resource(s) that they understand how to implement effectively.
- Their future instruction will include something from the PD.
- They are familiarized with at least one NASA asset that pertains to their grade level.

7. **Follow-up:** I will be able to follow-up with this group of teachers together in future department meetings, as needed. The department meetings are scheduled once a month, and barring any other administrative necessities, I will be able to meet with them to share progress and reflections during the school year. I am also able to provide individual or grade level teacher support through on-going planning with the teachers, modeling components with the students for the teacher to observe, and co-teaching portions of the project based learning experience.