**K-12 Student Outreach**

6.14 **STEM Middle School Introduction to Engineering**

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| **1. Section, Branch** | Colorado/Southern Colorado |  |
| **2. Section/Branch Size** |  |  |
| **3. Project Contact** |  | |
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| Email | liz.staten@hdrinc.com | |
| **4. Project Category** | K-12 Student Outreach | |
| **5. Project Description** | The Branch developed a presentation to introduce students to Civil Engineering | |
| **6. The Process**  (What you did, When and How) | The STEM coordinator reached out to the Branch leadership through the Branch website. The President and Vice-President volunteered to lead this effort for the Branch. They met with the teacher for the STEM class to discuss the student experience with engineering. This class consisted of 7th and 8th grade girls who excelled in math and science and who would be first time college students in their families. The team then developed an “Introduction to Civil Engineering” presentation that discussed the various disciplines available to a graduate engineer. These included: Structures, Geotech, Stormwater, Roadway, Rail, Traffic, Water, and Waste Water. Also included where classes to focus on in High School, and College like math and sciences, but to also include public speaking and writing. | |
| **7. Those in Charge** (Committee, Task Committee, Etc.) | Student Outreach | |
| **8. Time Frame**  (When Started, When Completed) | Developed the presentation in a couple of weeks. Presented to multiple classes over a 2-year period. | |
| **9. Success Factors**  (The Parts that Worked Really Well) | Bringing Candy helped the students interact and ask questions. ASCE has recourses for information and graphics. | |
| **10. Setback Factors**  (The Parts that did Not Work Well) | The STEM coordinator at the school we worked with only had a two year grant, and the class didn’t continue. | |
| **11. Creativity**  (This is something off the wall that we did) | Discussing Waste Water engineering horrified some students, but it helped them understand how engineers are great for the environment. | |
| **12. Administration**  (What was most Important?) | Like most things, having someone with a passion for the program helps it succeed in a voluntary organization | |
| **13. Follow-Up**  (What was most important?) | Reaching out to other schools and STEM coordinators in your area can help build a great program. Have multiple members involved so the practice continues for years.  The State’s Department of Education has STEM programs listed throughout the state. The Branch will be reaching out to these coordinators in the new school year to expand the program. | |
| **14. Recommendations**  (What you should ALWAYS do with this project?) | Have enthusiastic engineers to present a positive view of engineering. | |
| **15. Cautions**  (What you should NEVER do with this project?) |  | |
| **16. The Outcome** | Exposed many students who had never heard of engineering to a valuable career. | |
| **17. Ongoing Activity**  (Would you do it again?) | This was a very rewarding opportunity. | |
| **18. Speaker Contact Information**  (person from your Region who would be willing to speak about the Best Practice) |  | |
| Name |  | |
| Address |  | |
| Phone Number |  | |
| Email |  | |
| **19. Additional Comments** |  | |









