

Being an Earth Explorers Scientist or Engineer: Fall 2013 Quest

What IS Earth Explorers?

The mission of Earth Explorers is to open doors to science and engineering careers by educating and mentoring underrepresented youth. We define underrepresented as girls, minorities, students living in poverty, and students who will be among the first generation in their families to attend college. We use video and new media technology to connect young people to science and engineering professionals in their communities, and to strengthen access to networks of support that enable students to succeed in the classroom and beyond. Earth Explorers three distinct programs: Quest (6th Grade, research and presentation), Journey (7th grade, video production), Expedition (8th grade, self directed filmmaking).

What is Earth Explorers: Quest?

Earth Explorers: Quest is the newest addition to the existing Earth Explorers curriculum at Trail Ridge Middle School. This quarter-long “Research and Presentation” course was created to introduce sixth grade students to the world of scientific discovery through hands-on projects and activities. During the eight week course, scientists and engineers visit students three times at the middle school, and the students learn basic research, storytelling, website creation, and still photography. At the end of the quarter, each team presents their own unique Video Slideshow about their Scientist’s area of research at a fun red-carpet Premiere. All sixth graders (approximately 250 students) at Trail Ridge Middle School in Longmont will be required to take *Earth Explorers: Quest* during the 2013-14 school year to fulfill a “Research and Presentation” course requirement.

What are the time requirements for Scientists?

Each *Earth Explorers: Quest* quarter long course (8 weeks) features three Scientist contact sessions. During the Fall 2013 semester there will be four, quarter long classes: two classes will run simultaneously in quarter 1 (Q1) and two will run simultaneously in quarter 2 (Q2). We will need 21 total scientists for each quarter, and we’d love scientists to sign up for *either* Q1 or Q2, or (preferably) *both* Q1 and Q2. The three Scientist contact sessions include a ‘getting to know you’ introductory session, a tabletop experiment session, and a debriefing session to reflect on the experiment. Additional details and dates for the upcoming semester are outlined on the second page of this document.

What are we looking for in our Scientists?

- The ability to explain your area of research to a 6th grade audience using simple explanations of concepts and vocabulary.
- An engaging tabletop experiment that demonstrates basic concepts from your research and allows students to participate in the discovery process/ Scientific Method.
- Availability on the assigned dates: due to tight scheduling necessary to ensure Scientist sessions correspond to appropriate lessons, and because of school policies and logistics, it is NOT possible to change the dates of the Scientist sessions.

What do Scientists get from the Earth Explorers experience?

- Earth Explorers is a structured outreach opportunity with a three year history of quality and success. We provide professionally-supported experiences where scientists and engineers can engage in meaningful education outreach with a small team of students. The number of students reached by each scientist’s mentoring may be low, but the level of direct student impact is high!
- Each student team creates a short video slideshow that EE Scientists can use to demonstrate professional outreach efforts, and as an accessible (if silly!) explanation of his or her own research and field of study.
- Earth Explorers is a FUN way to conduct required outreach and broaden the understanding of science and engineering careers. Our Scientists frequently tell us they had a blast working with Earth Explorers students and finding creative ways to explain their fields of study.

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Session Title	Date & Time	Session Length & Location	Session Description
Meet Your Scientist	Q1: 9/5 Q2: 10/31 12:00 - 12:45pm (approx.)	45 minutes Trail Ridge MS in Longmont Colorado	The primary goal of the <i>Meet Your Scientist</i> session is for both students and Scientists to become comfortable working and talking together. Teams of three students will ask questions about their Scientist's life, education, and basic research, and Scientists are given opportunities to learn more about the interests of each individual team member. Students will also take team photos with their Scientists and each team will take a portrait of their Scientist to use in their Video Slideshow and team website.
The Experiment	Q1: 9/10 Q2: 11/7 2:45pm - 4:45pm	2 hours Trail Ridge MS in Longmont Colorado	Each team learns more about their Scientist's research and the Scientific Method by participating in a two-hour tabletop experiment. Students document the process by taking photographs and writing down each step of the experiment. The primary goal of the <i>Experiment</i> session is to engage students in the joy of the discovery process. With the support of EE instructors and staff, each Scientist demonstrates a simple experiment and facilitates student observation, questioning, testing, and data collection with his or her own team.
Debrief	Q1: 9/17 Q2: 11/14 12:00 - 12:45pm (approx.)	45 minutes Trail Ridge MS in Longmont Colorado	The <i>Debrief</i> session is designed to 'close the loop' on the lessons students learn during the <i>Experiment</i> session. Scientists guide their teams through intentional reflection to ensure all students understood the experiment. Successful reflection strategies ask students to summarize and explain (using writing, drawing, PowerPoint or other presentation tools) what happened during the experiment. Supported by EE instructors and staff, Scientists revisit the vocabulary and concepts central to the <i>Experiment</i> session, answer questions, and help the students relate the new information they've learned to relevant issues in their everyday lives.

What support will Scientists get from Earth Explorers?

Earth Explorers will support Scientists by assisting in the selection and design of a hands-on tabletop experiment lesson, and by helping Scientists acquire materials necessary for the experiment. Scientists will also receive regular updates, reminders, and logistical information from Earth Explorers staff members.

