



TRAILS COLORADO CAREER PROFILE

+ Unit of Instruction: Earth and Human Activity

+ Subject/Course: Career Readiness/ Earth and Space Science/ Environmental Science

+ Grade Level: High School

+ Colorado Academic Standards:

- > SC.HS.3.9: Resource availability has guided the development of human society and use of natural resources has associated costs, risks, and benefits.
- > SC.HS.3.11: Sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources, including the development of technologies.

+ Learning Objectives: *By the end of this lesson, students will be able to:*

- > Identify multiple STEM careers involved in local industries including:
 - o Academic requirements (high school, college, etc.)
 - o Certifications/educational requirements
 - o Technical skills requirements
- > Connect careers in sustainability and resource management to the local industries
- > Understand the interdependence of the environment, the economy, and society

+ Resources Needed:

- > Anticipation Guide handout
- > Post-Video Activity handout
- > Research materials (laptops, articles, etc.)
- > Visual representation materials (paper, magazines, etc.)
- > Markers



+ Assessment/Demonstration of Learning: *What will students do to show what they have learned?*

- > Review anticipation guide misconceptions
- > Review visual presentations

Class Activity: TRAILS Colorado Career Profile

Total Time: 20-30 minutes

Making Connections to Prior Knowledge: 5-10 minutes

Do Now: Have students fill out the anticipation guide before the video is played.

Discussion: Collect class answers from the anticipation guide to see class results. Answers can be collected on a smart board or just by raising hands. Invite students to volunteer why they selected their answers to start a discussion.

Video: 6 minutes

Tell students they will be watching a video about a local business called Innovative Water Technologies located in southeast Colorado. Communicate to students that they should pay attention to how the video addresses any of the statements from the anticipation guide.

Play the video.

Post-Video Discussion: 5-10 minutes

Have students fill out the three questions at the end of the handout alone or in pairs.

When students are done, teachers should first lead a discussion on how the video addressed the anticipation guide statements in the video. Students should be able to give specific examples from the video and use the questions at the bottom of the handout as a guide.



Research Project: 45 minutes or longer

STEM Careers in My Community

Students will explore the careers needed in the resource management industry by creating a proposal to improve the water management system of a local river basin. Students will understand the diversity of STEM careers in local businesses and the importance of different STEM careers to the community. Students can work in pairs or groups and should present their activity as a video, orally, or using other visual media. See *handout* for details.

+ Teacher Resources:

Natural Resource Management Resources:

- > Warner College of Natural Resources: <https://warnercnr.colostate.edu/frs/undergraduate-program/majors-minors/natural-resource-management/>
- > Certified Natural Resources Professional Certification: <https://www.nrep.org/certifications/certified-natural-resources-professional-cnrp>
- > NASA: <https://www.nasa.gov/emd/natural-resource-management/>
- > USAID: <https://www.usaid.gov/environment-energy-infrastructure/enrm-framework>

Career Resources:

- > Water Footprint Calculator: <https://www.watercalculator.org/resource/jobs-in-water-protection/>
- > Work for Water: <https://www.workforwater.org/careers-in-water/>
- > Water Resource Jobs: <https://online.ecok.edu/program-resources/water-resource-jobs/>
- > Water Encyclopedia: <http://www.waterencyclopedia.com/Bi-Ca/index.html>
- > USDA Forest Service: <https://www.fs.usda.gov/working-with-us/careers/resources-management-careers>
- > Department of the Interior: <https://careers.doi.gov/occupational-series/natural-resources-management-and-biological-sciences>