Our mission at the Colorado State University Environmental Learning Center is to...

“inspire and educate people to connect with and become stewards of our natural world.”
We accomplish our mission by -

- Facilitating high quality, positive, educational experiences in and about the environment.
- Educating and mentoring future leaders in the fields of environmental education and communication.
- Bringing the knowledge, skills, and talent within the college to the outside community.
- Maintaining access to and the health of our land.
GASP! Program

- Girls Advancing Scientific Progress
- 6-week after school program
- All girls
  - Increase 3rd through 5th grade girls’ efficacy and confidence in environmental sciences
- 4 schools per year, focus on lower income
- Research based
Research on girls & women in STEM

• Women comprise 47% of workforce in 2019 (US Dept. of Labor), but only 28% of STEM workforce
• Though percentages are better than other STEM fields, women are underrepresented in many environmental science fields (e.g., forestry, conservation, geology, natural resource management)
• Girls’ self-concept of ability in science starts to decrease in middle school
• Girls value altruism in careers
• Textbooks and curriculum do not represent women equally
• Girls have fewer opportunities than boys to use science tools and equipment in class
• Boys receive more teacher attention and more instruction than girls
• Parents’ involvement in out-of-school science related activities linked to girls’ interest in science as long as 6 years later
• Role models play a significant role in STEM career awareness and interest for girls
Other research

- People who identify as Hispanic, Black, or American Indian/Alaskan Natives make up a smaller portion of STEM workforce than their proportion in general population.
- By second grade negative perceptions of scientists (‘angry’, ‘mean’, ‘nerdy’) begin to show up.
- Boys and girls perceive scientists as white and male.
- Students in high-poverty schools less likely than peers to get hands-on science (47% vs. 61% doing hands-on activities once per week).
- Students from higher poverty schools have fewer STEM tools and resources at home (e.g., computer) and in school (e.g., computers, lab equipment).
Equitable practices

- Identify and work on your implicit biases
- Redefine science as a culturally mediated way of thinking and knowing
- Make diversity visible (e.g., highlight scientists that look like students and come from a variety of backgrounds)
- Focus on everyday contexts that are important in children’s lives
- Connect to students’ cultural experiences and native languages
- Make learning student-centered (e.g., small group work instead of lecture)
- Value multiple ways of expressing science understanding
- Focus on students identifying as scientists (i.e., using scientific tools, discourse, sharing newfound knowledge)
References


- Successful STEM Education, https://successfulstemeducation.org/resources/raising-bar-increasing-stem-achievement-all-students