

# TRIBAL STEM NETWGW

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Today STEM is thought of as science, technology, engineering and math. These four technical disciplines are often rooted in tribal traditional and cultural activities. Which of the following activities do members participate in?

Over 70%:

Cultural instrument and tool making (musical, hunting, gathering, etc.)

Environmental remediation/stewardship

Farming, ranching or other agricultural practices

Fishing/Aquaculture

Harvesting traditional plants

Housing or community structure

Hunting/Trapping

Regalia or traditional clothes

Seasonal/Food storage

Song/Storytelling

Traditional art (jewelry/beadwork/pottery/carving/painting/weaving, etc).

Traditional cooking

Traditional games

Traditional language preservation

Traditional medicine

In your tribal community, what are the key factors and preferred methods for transferring traditional knowledge (TK) and traditional ecological knowledge (TEK) to tribal youth?

67+%

Practicing land stewardship

Relationships with tribal Elders and key knowledge keepers

Teachings about traditional plant medicines

Transfer of indigenous language

Understanding culture and traditions

Visiting important cultural and ceremonial sites and landscapes

STEM (science, technology, engineering and math) is a broad term used to group and integrate several academic disciplines. How important is it to you that the tribe provide STEM programming/projects for K-12 students?

Overwhelming 95% of respondents answered

Extremely important

Very important

Do you think most tribal youth in your community have adequate access to STEM education?

Yes ~20%

No ~ 43%

Unsure~ 37%



Mission: To attract the brightest students to the nuclear professions

Visit [neup.gov](http://neup.gov) for more information!

- Through the University Nuclear Leadership Program (formerly the Integrated University Program), DOE-NE provides undergraduate level scholarships and graduate level fellowships to students pursuing a nuclear energy-related degree
  - Relevant disciplines include, but are not limited to, nuclear engineering, mechanical engineering, electrical engineering, chemistry, health physics, nuclear materials science, radiochemistry, applied nuclear physics, nuclear policy, radiation protection technology, nuclear operations, nuclear power technology, nuclear maintenance technology, and nuclear engineering technology
- DOE-NE awards up to 70 scholarships and 30 fellowships annually depending on funding level (~\$5 million)
  - Graduate fellowships: \$161,000 over three years
  - Undergraduate scholarships: \$5,000-\$10,000 for one year

# Collaboration Partners

## Supporting STEM Education in Tribal Communities

### Project Team @Tribal STEM



## Santa Fe Indian School Community Awareness Meeting

474 views | Nov 26, 2019, 05:50pm

### Traditional Knowledge From The Land, For The Land: STEM Opens Doors For Native American Students



**Talia Milgrom-Elcott** Contributor

Education

*I focus on collaborative problem-solving in K-12 STEM education.*

Now more than ever, it's crucial to harness the full potential of STEM to tackle climate change, address public health challenges and advance technology. And there's a growing recognition that we won't be up to the task if we don't ensure all students have access to foundational math training, authentic STEM learning and high-level, career-relevant STEM courses. Right now, students of color and low-income students are too often shut out of these learning opportunities – too often because the courses and other opportunities are never made available to them.

That's especially true when it comes to Native American students, who use STEM skills in everyday life but too often **don't have access** to the formal STEM education and training that would open doors to careers in those fields.

Native Americans have been using STEM skills on Tribal lands for generations. Tribal youth are resourceful, creative and resilient. Now, those who have gone on to study and work in STEM fields are returning home to their reservations to help meet the challenge head-on.

Talia Martin serves as the Tribal Department of Energy Director at Shoshone-Bannock Tribes in Idaho. Growing up, Martin loved reading and science, but didn't see opportunities to work as a scientist in her community, although those skills were desperately needed. While pursuing her master's in chemistry, Martin was often the



# Tribal STEM Student Engagement from the Pueblo of Picuris





# Tribal STEM Engagement with Regional Partners During Covid-19

## **Nuclear Energy and the Smartphone Microscope**

Working with regional partners to get over **1000** hands-on STEM tool and lessons out to students in New Mexico, Colorado, and Alaska

### ***New Mexico***

- Los Alamos National Laboratory and the Pueblo of Picuris for their STEM Day and River Festival;
- Nonprofit STEM Santa Fe for the STEM Pathways for Girls Conference and Workshop;
- Explora Museum with Navajo Transitional Energy Company to five schools on the Navaho Nation Reservation (Bread Springs Day School, David Skeets Elementary, Naschitti Elementary School, Beclabito Day School, Tohaali Community School);

### ***Alaska***

- STEMnovations, Inc to Alaska Native Villages and rural hubs including Adak and Atka in the Aleutian region, Nome Middle Middle School, Savoonga, Gamble, Utqiagvik, Anchor Point, Homer (McNeil and Homer Middle), and Kasilof;

### ***Grand Junction, CO***

- DOE Office of Legacy Management in Grand Junction to provide kits for schools with high Tribal populations

# Navigating Nuclear STEM Resources

## High School Resources:

- Digital Lesson Plans
- STEM Project Starters
- [Virtual Field Trip of Idaho National Laboratory](#)

## Middle School Resources:

- Digital Lesson Plans
- STEM Project Starters
- Career Profiles

## Elementary Resources

DOE partnered with American Nuclear Society (ANS) and Discovery Education (DE) to support High School Resources (2019-2020) and Elementary School Resources (2020-2021)



# Questions?

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