



AIS PREP

Science, Technology, Engineering, and Math
Education for Native American Youth

315 students
served



6 sites in 4 states



36 fields trips



144 career speaker
lectures



840 class lectures



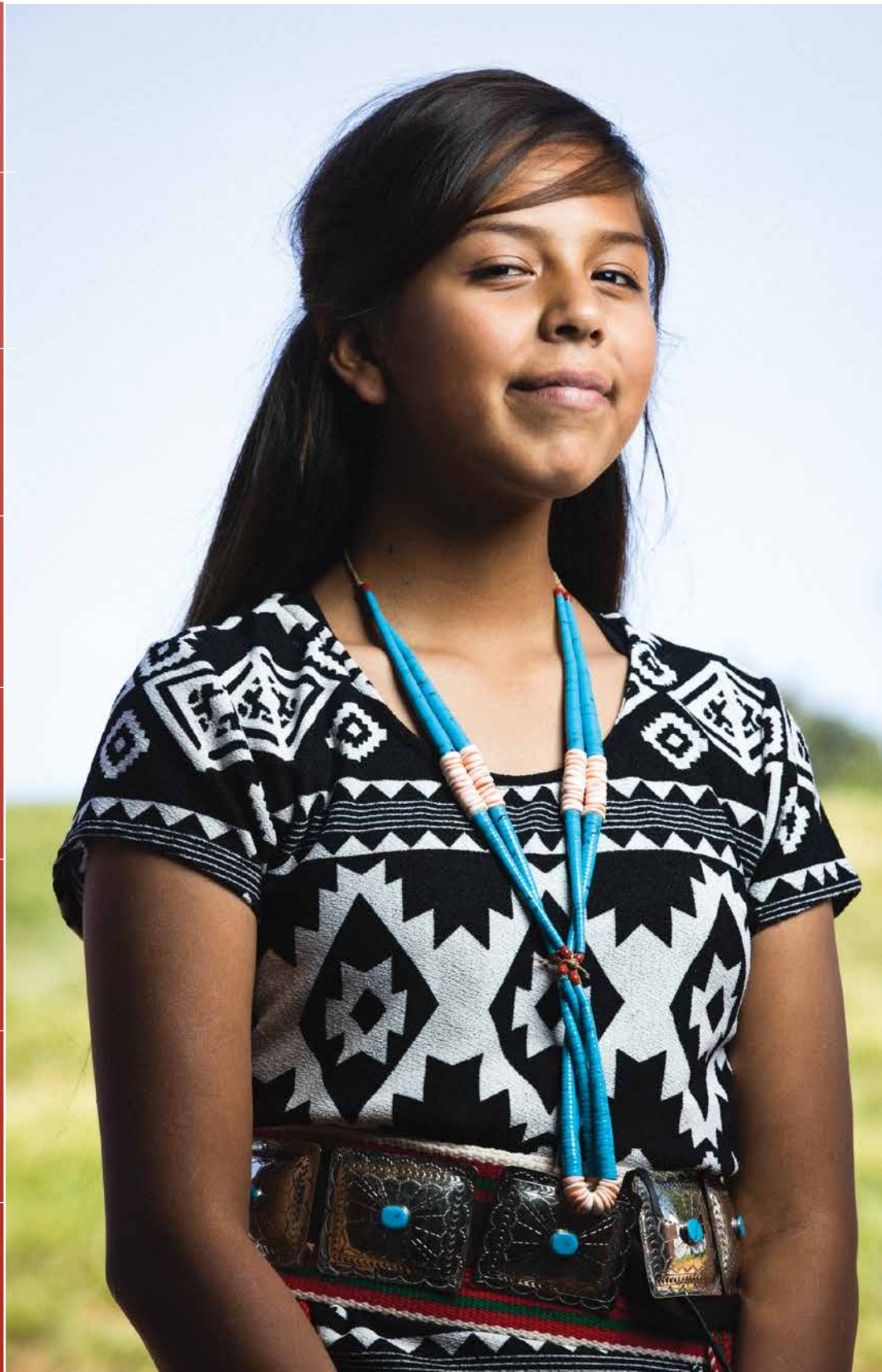
Test scores raised
by an average of
22%



14,010 meals
distributed

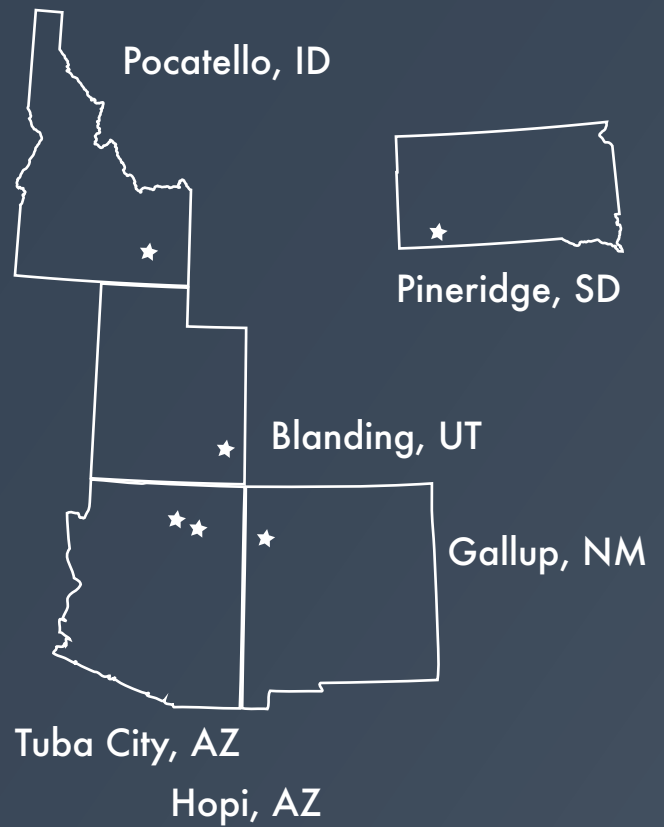


315 t-shirts and
book bags
distributed



DEMOGRAPHICS

	Male	Female	Students
Blanding	29%	71%	95
Hopi	32%	68%	28
Gallup	39%	61%	28
Tuba City	39%	61%	104
Pineridge	43%	57%	16
Pocatello	45%	55%	44



94% of students have Native American heritage

“Jacob has matured in many ways since starting AIS PREP. One in particular is how he sees his peers as equals, especially those who are of another race and/or religion.” - *Mike Moulton, AIS PREP Parent*

STUDENT IMPROVEMENT

90% of students advanced or graduated



Caroline holding the 3D printed sculpture that she created using CAD.

Hi. I'm Caroline, I just finished the three-year program from AIS. I enjoyed my time there at Blanding. It was a better, more productive way to spend my summer. We took advanced level classes that would help us in the future. My favorite were the coding and logic classes. I may be biased because, in the future, I want to become a software engineer. That's kind of the reason why I joined AIS.

More so when I found out that my friends were also going to be there. While I was there they invited these guests to teach us about how to solve the rubix cube. Then I basically grew obsessed with the cube during my whole summer this year. We also had field trips at the end of every week. All in all, I really enjoyed my stay at AIS.

Year	Subject	Improvement
1	Problem Solving 2	31%
1	Logic	33%
1	Engineering	21%
2	Problem Solving 2	20%
2	Algebraic Structures	21%
2	Physics	13%
3	Statistics	26%
3	Computer Science	14%

*For each summer that students attend AIS PREP during high school, they receive 1/4 credit toward graduation.

SCIENCE FIELD TRIPS



Students attend weekly science field trips where they are given the opportunity to explore real world applications of STEM in and around their community. Here are a few examples of the places the students visited this year:

The Idaho Snake River Plain - students participated in five wildlife ecology presentations and experiments, including a fish station where students handled live trout and pumped their stomach contents to see what the fish were eating, and a tribal culture and language station where the students learned Shoshoni names of the places and organisms they encountered.

The UVU Sci-Tech Expo - The Expo creates awareness of the practical application of a STEM degree through workshops, live demonstrations, and competitions. Our

Pocatello first years worked hard on their bottle rockets throughout the summer and won first place at the bottle rocket competition.

The Lava Tube Caves in Grants, NM - The students explored five lava caves where they learned about lava flows, the moving of tectonic plates, and how they shape the geology and landscape in that area.

Guardian Flight in Salt Lake City - Guardian Flight is a medical transportation service. Students learned about aviation and flew a flight simulator.

The Arizona State Forestry Department - the students did many activities and were shown how the department uses STEM in their field.

CAREER SPEAKER PRESENTATIONS

Students attend daily Career Speaker presentations given by STEM professionals. These lectures broaden the student's knowledge of what careers are available to them in STEM, and raises their ambitions for the future. Some of the presenters have included:

- David Brown, Computer Programmer
- Pratt Redd, Economic Development Specialist
- Dr. Kapil Khanedelwal, Civil Engineer Professor at University of Notre Dame
- Gabrellia Karden, Gene Research Professor at University of Utah
- David Purcell, University of Utah Geologist, and Robotics Engineer for NASA
- Tabb and Fam Bingham, Dentists
- Jason Nay, Spirit Airlines Pilot
- Linda Simmons and Jeremy Hogard, EMTs
- Dan Adams, Neuroscientist
- Steven Duke, Occupational Therapist
- Timo Groves, Chemical Engineer
- Josh Alwood, NASA scientist
- Joe Nunes, Microsoft Software Engineer



A PARENT AND STUDENT INTERVIEW

Holly Youvella -

What made you want to have Oscar be involved in AIS PREP? When my sister told me of AIS PREP and all the great opportunities that made up this wonderful program, I was all-in. I know that as a young child, I was intrigued with science, not so much math, but I did enjoy learning and I felt that if I were to open up an opportunity for Oscar, he would be able to see something he may be interested in and it would help with his education as well.

How has AIS PREP affected Oscar's performance in school? After the first year of AIS PREP, I have not had to worry about his grades slipping in any subjects. He is a great student and I know that AIS PREP has definitely been a plus in teaching him more than just his grade level of work. He has exceeded his teacher's expectations and that in itself is wonderful!

How has PREP affected his attitude toward science and math? PREP has affected his attitude towards science and math in a way that he is able to look at problems and be able to figure them out. At times, I want to give him the answer and I do, then he tells me, "Mom, you have to let me do my work. I know how to do it and I can see a simpler way of doing it." I'm old-school, so I do things in long-form at times.

What are your overall impressions of the program? The AIS PREP program is worthy of all the praise it is given. I can say that this program has helped my son to become aware of much more than I could have ever imagined. Meaning that he is able to see what other opportunities in school and his future are at his fingertips. The places Oscar has been have been of interest to him and help him explore outside of the areas near where we live.

In what ways do you feel PREP is having a positive impact on students and the community? Simply just the fact that upon completion of the full program, students are given the opportunity to have a scholarship to begin college, is a huge positive impact. Also, being able to take our children off the reservation and give them the "college" experience makes an impact on students.

Oscar Youvella -

What was your favorite class at AIS PREP and why? I would say my computer class because we got to be on the computers and create our own codes.

What was your favorite career speaker lecture? I enjoyed them all because they gave me an insight to what their work and life is like. How people can be affected by the type of work done in the different fields, and who they influence and were influenced by.

What was your favorite field trip? Going to the power plant and I learned how nuclear electricity is made.

What do you want to study in college? Oceanology because I get to see fish, help save the ocean, and be able to help others understand the ocean.

What would you say to a younger kid about AIS PREP who is thinking about attending the program? I would tell them to attend because you get the great memories and that leads to something greater with people you would never have the opportunity to have met otherwise. And you get to meet teachers/instructors who care about you and will help you as much as possible, but who will also push you to your limits.

A Letter From Assistant Director, Dr. Sylvia McMillan

Education, leadership, innovation, mentoring, and holistic healing are all elements for improving wellness and bridging the gaps with our Native American communities. There are many issues surrounding Native American education. It is a complex issue that demands a thoughtful perspective on the many difficulties that native children are born into. These difficulties can compound when these children are faced with a world that seems to neither understand them nor want to understand them. Their culture is often very different than the culture of their classmates, so they can find themselves feeling isolated. These issues have been the impetus for the creation of the American Indian Services Pre-freshman Engineering Program (PREP).

With a great deal of time, effort, earnest thought and 5 years running now, the PREP program, under the guidance of talented leadership and enthusiastic students, has become a premier summer program among Native American communities. Integrating "Native Ways of Knowing" with our STEM courses, AIS students are able to engage in fascinating studies that will let them act upon their curiosity and learn experientially through their own cultural practices.

The primary emphasis of the PREP program has been to center on the idea of the individual. Helping to lead one student at a time towards learning and self-reflection. Often, as that individual comes into contact with another unique individual on their respective journeys toward self-actualization, the student begins her transition into a position of power and greater understanding. These journeys will never be precisely the same, of course. Identical journeys—the kind that standardized education promotes—are not journeys at all. How each of us journeys through our specific mortal pilgrimage, if approached in good faith and guided by skilled educators, is that which will provide true learning and edification.

To learn more about AIS PREP please visit www.americanindianservices.org/ais-prep

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