Pilot Program: School Identification and Mobilization

Family Science

2002

Three Year Implementation Plan for Native American Outreach NE Space Grant Consortium (NSCG) and EPSCoR

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The following is an overview of the direction that the Native American Outreach program could take over the next several years. The four reservation schools involved are Santee, Winnebago, Walthill, and Omaha Nation; the tribal colleges are Little Priest Tribal College and Nebraska Indian Community College. While the exact grade levels that might be involved in this program could vary depending on the exact requirements of the specific school, this matrix outlines the general overview. See below for a brief description of each activity.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Activity</th>
<th>NASA Resource</th>
<th>Year of Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-6</td>
<td>Family Science</td>
<td>Exploring Aeronautics CD</td>
<td>All schools operational</td>
</tr>
<tr>
<td>Tribal College</td>
<td>Facilitator</td>
<td></td>
<td>Beginning in 2002</td>
</tr>
</tbody>
</table>

**NASA Explores**: An on-line resource that provides weekly lesson plans and activities on science, mathematics, science, technology, and geography standards. Grade levels include materials for grades K-4, 5-8, and 9-12. Lessons include articles, student worksheets, and teacher materials.

**Exploring Aeronautics**: A CD-based program that includes activities and actual videos focused in How Airplanes Fly, the Tools or Aeronautics, Different Wing Designs, and student and teacher materials. A 600 page teacher=s manual in .pdf is included as well.
as many animated sections. Everything needed on one CD.

**Earth to Orbit:** The NASA Earth to Orbit Engineering Challenge connects students with the challenges faced by NASA engineers as they design the next generation of aerospace vehicles. There are currently three challenges that student teams at each school can engage in. Through a combination of teacher-led units of on-line materials, students can learn by implementing the scientific method, develop teamwork skills, use creativity and problem skills, and improve their abilities in science, mathematics, and technology. The entire program is based on use of simple and inexpensive materials that can be designed, built, and tested against specified criteria.

**Globe:** The GLOBE program is based on students studying the atmosphere, hydrology, soils, land cover, and Earth as a system. Student conduct research in these areas, use the Internet to compare and analyze data with that of other schools all over the world, and engage in collaborative learning with other students in 85 countries. By following specified protocols along with using very basic tools (photometer, sling psychrometer, rain gauge, pH indicators, as well as other items available in a basic kit), participants and teachers explore real issues using real data. This program could be expanded to include parents and members of the community.

**Stargazer:** The Stargazer program of N. Arizona University (NAU) is a program focused on minority females. Selectees spend a week at NAU working with astronomy faculty members and selected individuals from the Native American community. The key activity is to relate current astronomical observations back to tribal beliefs and cultural issues.

It is envisioned that the NE Space Grant Consortium and EPSCoR will initially play a facilitator role as well as a broker role in later years as these programs mature. The two tribal colleges can and should be encouraged to take a local leadership role in any of these programs. NSGC and EPSCoR can be a seeding agency at first and then there may be additional grant opportunities for the future growth of the endeavor. The infrastructure for such an undertaking is in place; all we need to do now is begin to utilize it.