

Project Summary

“Sometimes in school we don’t get to do stuff in science”. “I’m not good in math”. These declarations made by students at Garibaldi tell us there’s still a gap in students’ STEM experiences. Using the existing footprint of our successful YSTARS Afterschool Program, the proposed Garibaldi Afterschool Program (GAP) will strengthen our STEM offerings in an extended learning environment. Using already purchased curriculum, we’ll offer a wide range of STEM Enrichment activities, STEM Career exploration, Math tutoring, and Tutoring/Homework Assistance. Middle School teachers will entice 5th graders with fun Middle School level Math, Science, and Computers activities. All students (grades K-5th) will work in the school’s garden, use Science and Math Discovery Labs, get Math tutoring, be a part of an *Odyssey of the Mind* team, train for a run/walk event, learn keyboarding, and integrate technology throughout their activities. Over 11 local supporters including a retired Intel engineer, a female forester, and Health Department nurse will give STEM careers presentations to demonstrate just how cool using Science, Technology, Engineering and Math can be. Our goal is to expand STEM classes and continue to fill the “gap” our students will have when our current program ends.

Project Rational

Neah-Kah-Nie School District is located in Tillamook County, on the isolated, northern Oregon coast, encompassing a 400 square mile region that reaches from Tillamook on the southern border, to the Clatsop County line to the north. The district consists of nine tiny communities interspersed with forests and farmland, serves approximately 700 students in two elementary schools, one middle school, and one high school. Our afterschool program will serve one site, Garibaldi Grade School (205 students). In a survey of Garibaldi parents (January 2014), 89% of the responding parents indicated they need afterschool supervision for their children for the

tutoring, enrichment activities and social interaction for their children. **Extreme economic deprivation:** Recent U.S. Census information indicated the average annual income for Tillamook families is \$41,000 --approximately \$11,000 less than the average worker in Oregon, indicating that the County has a high number of “working poor.” Of the residents in Tillamook County, 16.9% live in poverty. Many of our parents work seasonally in the fishing and recreation/tourism industry. Typically, these tourism jobs are low-paying and often part-time. Because none of the 7 licensed afterschool day care providers listed in Tillamook County are located in the city of Garibaldi, working parents would be required to seek caregivers in either Tillamook (10 miles south) or in Nehalem (15 miles north) – or have their children go home to an empty house (29% surveyed). In Neah-Kah-Nie School District, 53% of the families participate in the federal free/reduced meal program with 61% enrolled at Garibaldi Grade school. **Economic Characteristics of Tillamook County:** According to the 2008-20012 American Community Survey, 5 year estimates indicate that within Tillamook County only 9.6% of the jobs are in agriculture, (including food production, forestry, fishing and hunting, mining); 7.3% in construction fields; 12.8% in the manufacturing trade; and 12.2% in retail trade. Each of these areas require application of skills in science, technology, engineering and mathematics. **Academic performance:** DIBELS Fall 2014 Math Computation scores indicate that 53% of the students in grades 3-5 are likely to need strategic or intensive support in math, with only 47% of the students scoring at or above the benchmark. Students in Grade 5 have shown a downward trend in their OAKS Science scores (proficiency or higher) since the 2009-2010 school year. The 2012-2013 data shows that the fifth grade students scored 83.3%, a decrease of 4.3 % from the previous year. This data also show that the economically disadvantaged population performed lower in Math, and Science: 61.2% in Math, and 75% in science.

Project Plan

Following the review of county and district risk factor data in combination with the identified needs of parents, students, and staff, the Garibaldi Afterschool Program will include:

1) STEM Enrichment, 2) Math Tutoring, 3) Homework Assistance 4) USDA approved Snack/Supper Program.

STEM Enrichment - Students will progress through STEM activities – either independently or working in teams, with the (4) Support Staff members and Site Coordinator to provide guidance and extension lessons. These Standards aligned activities will enforce lessons taught during the regular school day, applying math skills hands-on learning, and independent learning opportunities. *Discover STEM Labs for Grades 4-6*, and *BRICKLab* for grades K-3 and *Lego Mindstorms*® kits will be used. Math Discovery labs, focusing on math concepts applied in real world applications including restaurant math, consumerism, and sports will also be offered using already purchased curriculum. Students will explore science using activity based curriculum that apply grade appropriate concepts. The school’s garden will be used to apply earth science concepts learned through lessons included in *Farm-to-Table* curriculum and other materials or presentations by local partners. Because state testing now requires students to be proficient at typing, skill development in keyboarding, and instruction in computer applications will also be provided through *Type to Learn* software and technology based student projects. To help prepare students for the district’s technology upgrades at the elementary level, ten (10) *Chromebooks*® will be purchased for students to get a jumpstart in learning how mobile devices can be used in all subjects -- from compiling data from experiments to creating Powerpoint reports. Using the internationally acclaimed *Odyssey of the Mind* framework, students will work on problem solving skills and teamwork to create presentations focused on higher level thinking and

reasoning. Presentations will be made during a school assembly. Every 6 weeks volunteers will present information in STEM related occupations found in the area. Discussions and activities in STEM careers will also be provided by using *Career Aware I& II* curriculum from the Oregon's Partnership for Occupational and Career Information. Fourth and fifth grade girls will join *Team Esteem*, a spin off of the National program "Girls on the Run". Training will include guidance in preparing for running events, general dietary information, and using technology to graph and monitor personal progress. On Wednesdays, volunteer school staff will provide high interest classes including Health/Fitness (dance, sports, jump-rope) Math/Engineering Design (woodworking), Technology (video productions), and Problem Solving (chess). Once every 6 weeks, the *Bridge to Middle School* Program will have teachers from the Neah-Kah-Nie Middle School present lessons that align with the Middle School SEPUP curriculum and the existing District technology infrastructure at the Middle School level. Fifth grade students will also take a "field trip" to the NKN Middle School to observe math and science classes.

Math Tutoring – Academic tutoring will be provided to at risk students in math up to three (3) days a week, 45 minutes each day based on students' need. Each week, tutors will give written feedback to the parents, teachers and principal outlining the tutoring activities accomplished, student behavior and attendance and progress towards achieving goals. To increase basic math skills, tutors will use a variety of materials that are aligned to State Standards and Common Core including "*AfterSchool Kidz Math*" which incorporate literature, games, and apply real world math concepts, "*Every Day Math*" classroom games (McGraw Hill Publishers), and "*Digging Into Math*" (SMC Curriculum) workbooks for independent practice. Online programs including *Kahn Academy* and *IXL Math* will also be used. **Homework Support**- Students not receiving Math tutoring will have 45 minutes each day of homework assistance. Extra practice in math

computation and math facts, reading and writing for pleasure, and computer games will also be available for students to supplement their homework sessions. **Snacks/Supper:** Daily snacks/supper items will be provided to students in the afterschool program. The Grant Director will work with the school site cafeteria manager to plan nutritious supper/snacks that comply with USDA Child and Adult Care Food Program (CACFP) regulations.

Recruitment: The afterschool programs will have 60-75 students in attendance. The Grant Director, Site Coordinator, and Principal will review completed applications and place students in the program initially based on academic need in math or science, wanting additional STEM enrichment experiences, need for social skill development, and working parents needing afterschool care. Those students not included in the initial placement will be placed in the program whenever a vacancy occurs throughout the year. **Evaluation Plan:** The Grant Director and Principal in collaboration with Northwest Regional Educational Services District (NWRES D) will work closely together to design a comprehensive evaluation of the program activities and the impact of these activities in increasing student achievement, and educational enrichment. Using interviews, surveys, and ongoing review of student evidence, the evaluation will be used to document the progress and status of the project, and to assist in planning necessary corrective or next activities to facilitate the overall success of the project. Data collected and analyzed will include parent and student follow-up surveys. Key indicator data, such as statewide test scores, will be used to measure goal achievement. Progress of the program will also be reported to ODE through formal reports, interviews and surveys conducted by ODE staff or evaluators. **Sustainability Plan:** In order to continue the afterschool program as outlined, key stakeholders will develop and implement sustainability strategies. One such strategy is the recent partnering of Neah-Kah-Nie School District in the Oregon Coast Regional

STEM Hub initiative. With this partnership, existing resources, new STEM programs, funding opportunities, and local businesses and industries involvement on the coast will also be available for students and teachers in Neah-Kah-Nie School District. Additional strategies will be to build community knowledge through frequent use of the media, informational flyers, and student participation in community events; 2) Provide presentations to the School Board to showcase the positive effects and the great value that our program has had on children and families; 3) Obtain additional funding through local foundations and STEM supporters.