

## Needs Assessment

### **Classroom Vision**

My classroom is very different from a typical classroom. As a Learning Enrichment and Gifted Support Specialist, students in my resource room are actively engaged in projects that span a huge range of topics including: music theory, computer programming, visual art, marine biology, Old English, Bengali and many, many more. Not all of the students in the gifted program have a passion for science, but many of them do. My vision involves tapping into the highly able learners who have a strong interest in and curiosity about science and training them to help me teach others about polar science. In the months before my expedition, I have been building a team of Polar Ambassadors, who are developing lesson plans to share with K-12 students in the district. These students have been spending time learning together about polar science and figuring out ways to present what they've learned to other students. My hope is that the Polar Ambassadors will be role models for other students in the district; our goal is to increase knowledge of and excitement about polar science.

### **Obstacles**

I serve over 200 students with individual learning contracts in all subject areas; students are in my resource room all eight periods of the school day. The Polar Ambassadors are in grades 9-12 and do not share a common class period in my room, so finding time to work together is a challenge. Another challenge involves figuring out a way to connect polar science to the existing curriculum for students in grades K-12. Classroom teachers are pressed for time; it is important for them to feel that our lessons are logically connected to science standards they are mandated to teach.

### **Student Needs**

For this model to be a success, the needs of two different groups of students must be met. The needs of the Polar Ambassadors are quite different from the needs of the students they will be teaching.

Polar Ambassadors need to:

- develop a basic understanding of best practices involved in teaching science.
- gain understanding of a wide range of topics related to polar science (this is particularly challenging because Polar Ambassadors range in grade from 9-12. Some have had much more exposure to science than others).

Students taught by the Polar Ambassadors need to:

- gain understanding and appreciation of the Earth's polar regions.
- gain exposure to current issues in polar science.
- make connections to science they are already learning in the classroom (for example, biomes, food webs, adaptations, ocean chemistry, etc.)

### **Equity and Expectations Related to Differently Abled Students**

I work primarily with the highly motivated and highly able learners at my high school. I don't want my PolarTREC experiences to be limited to these students or to just the high school. To date, the Polar Ambassadors have taught an ocean acidification lesson to over 300 eighth graders in 13 different heterogeneously grouped science classrooms. These classrooms include English as a Second Language students, learning support students, and students of varying SES. My goal is to continue this method of outreach in order to share the wonders of polar science with students in different grades, from different backgrounds, and with different abilities.