

# First Nations/Aboriginal Outreach Programs in BC

Pacific Institute for the Mathematical Sciences



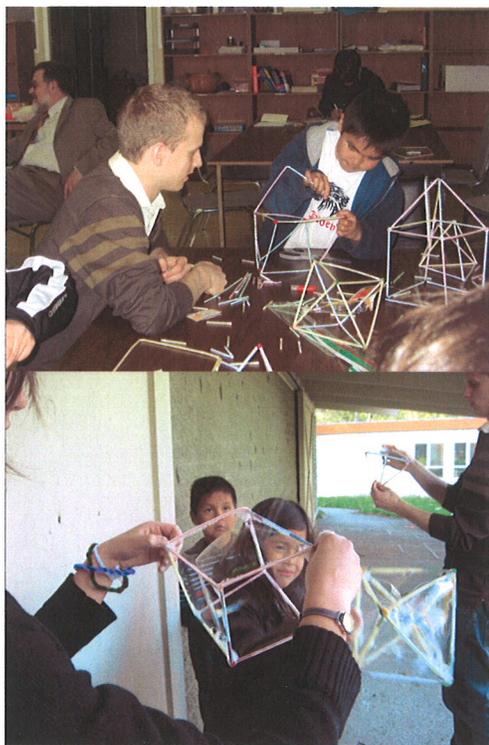
## 7) Musqueam First Nation:

- Musqueam math mentorship club: A math club was organized by PIMS and the *UBC Bridge thru Sports* program at the Musqueam reserve from February 2008 to June 2009. Later on, the UBC Longhouse of Learning took up this project. On average 16 children attended the club.

## 8) Adult Education on Kuper Island:

- We had a working session with the teacher regarding the implementation of math materials to help adults with their math at the school. We held a session with students in which they were engaged in doing some fun math activities. Around 13 students participated in the session held on October 14, 2009.

9) **Terrace, Hazelton and Kitwanga outreach trips:** Contacted Elders from these areas to find out the needs of the communities.



10) **Math materials and program support:** PIMS has provided math resources to the schools mentioned above consisting of books, manipulatives, and games as well as professional development support to aid in using these materials.

11) **Math Mania events:** In most of the schools mentioned above, PIMS has organized Math Mania events at least once every two years. Math Mania presents a variety of interactive demonstrations, puzzles, games and art. These activities are designed to demonstrate to children - and to their parents - fun ways of learning both math and computer science concepts.

## 12) JUMP Math Outreach:

PIMS has sponsored a series of training sessions for teachers using JUMP Math (*Junior Undiscovered Math Prodigies*), which is a math program widely used by First Nations Schools all over the province. We have sponsored sessions at the following locations:

Agassiz: **Seabird Island Indian Band School.**

Smithers and Houston Area: **Gitanyou school, Kispiox School, Holly Smith School, and Anspayaxw School**

Gitwagak: **Wilpe School**

Kitimat: **Haisla Community School**

Bella Bella and Shearwater

**“WE BELIEVE THAT THE UNION  
OF ABORIGINAL TRADITION  
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HARMONY FOR THE  
BETTERMENT OF ALL”**

SK'ELEP SCHOOL

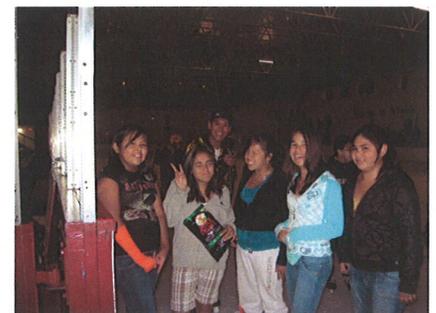
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## Activities in Vancouver:

- Summer Camps: In the summer of 2007 an 8-week summer camp was held at PIMS for 5 students with the goal of getting them ready for Principles of Math 10. Out of this experience PIMS developed a transitional summer camp for students moving from elementary school to high school. In the summers of 2008 and 2009, 6-week transitional summer camps were held at Britannia Secondary. The students had one and a half hours of math, and one and a half hours of English, and two hours of sports every day. Once a week, they had a cultural mentorship lesson with Elders. 20 children attended the camp in 2008 and 26 children attended the camp in 2009. PIMS also offered 6 week summer camps for students attending high school. 9 students attended the camp at PIMS in 2008 and 10 students attended the camp in 2009 at Britannia Secondary. One of the outcomes of the summer camps has been that 9 out of the 20 students who took the high school summer camps graduated from high school with either Principles of Math 12 (4 students) or Principles of Math 11 (5 students). This is the first time in more than 30 years that aboriginal students at Britannia Secondary School finished math at this level.
- Scholarships: Since 2007, PIMS has been giving scholarships to students who attend all their classes regularly and obtain good grades during the school year. More than 30 students have participated in this program.
- Mentorship programs and Math Clubs: Together with the Mathematics Department at UBC, PIMS has developed mentorship programs in the following schools: Point Grey Secondary, Britannia Secondary, Templeton High School, and MacDonald Elementary. These schools have a substantial percentage of aboriginals among their students and the mentorship programs are mainly geared towards this population. On average 50 students attend these mentorship programs regularly.
- Vancouver Aboriginal Friendship Center: From October 2008 to December 2010, Simon Fraser University and PIMS ran a math homework club at the center twice a week. About 15 students attended the club regularly.
- Native Education College: A math summer camp for 18 aboriginal students attending high school was organized at the college this summer. In addition a year round mentorship program has been created with the support of faculty, staff and students from the departments of mathematics and biology at Simon Fraser University.

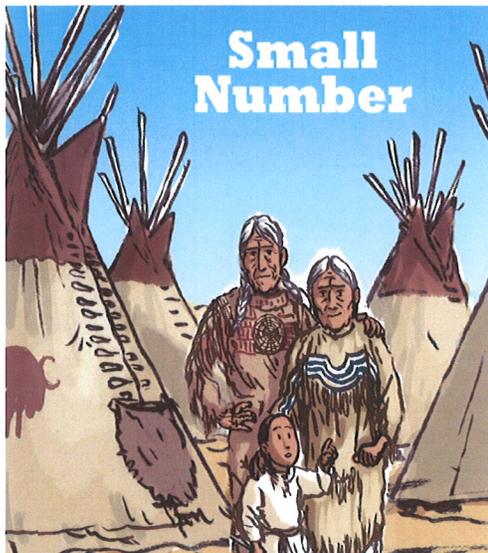


Summer camps and mentorship programs at Britannia Secondary in Vancouver

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## Development of Resources:

PIMS brought together a group of Elders, mathematicians, math educators and teachers, with the goal of improving mathematics education among aboriginals while at the same time acknowledging the importance of traditional culture.

The main focus of this group is to come together with all our different expertise and create lessons where the standards of mathematics learning would be high, and the aboriginal cultural context would be acknowledged.

We focused on numeracy and the following four possible outcomes:

- Numeracy for Practical Purposes
- Numeracy for the Interpreting Society
- Numeracy for Personal Organization
- Numeracy for Knowledge

By focusing on the development of these four outcomes, we are able to honour the spirit of each student as an individual and as part of a community. This way of thinking is an integral part of many aboriginal cultures as well as a successful way of learning mathematics in any culture. The reality is that most of the “aboriginal resources in mathematics” are very simplistic and do not honour the similarities, differences, depth and richness of First Nations cultures.

One of the first ideas developed by this group was the story and the movie of Small Number:

<http://www.math.sfu.ca/~vjungic/smaller.mov>.

PIMS has shown its leadership in bringing together various people, resources and institutions in working together towards the improvement of aboriginal mathematics education.



## First Nations Math Education Group

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## Assessments:

- We are currently working in partnership with FNESEC in the development of math assessment tools to be implemented in all First Nations schools around the province. These summative and formative assessments are being created in conjunction with teachers and educators currently with the aboriginal community.
- We are collecting data on the impact of our outreach activities and we can provide information upon request.



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