Climate Change Interdisciplinary Unit
Grade 11 & 12

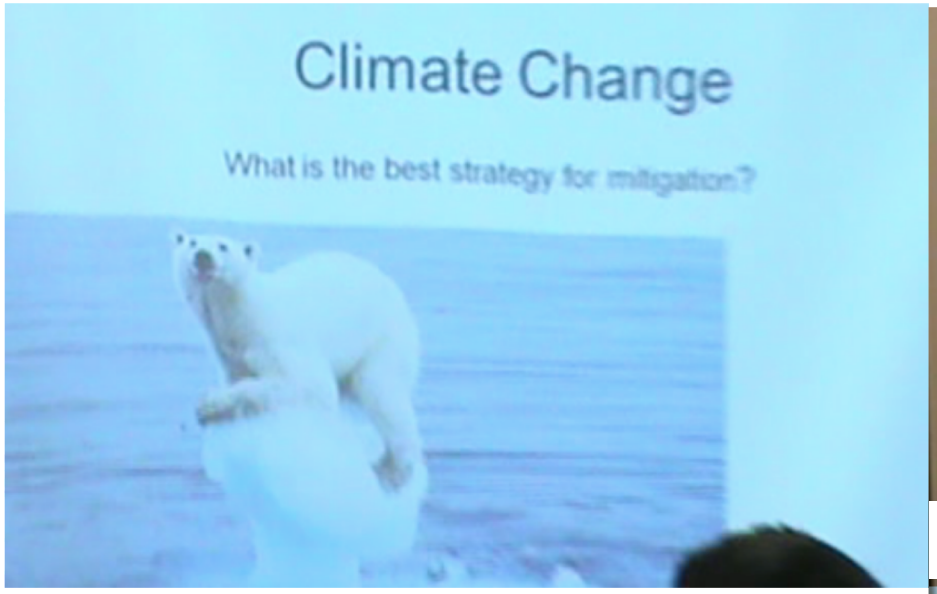
Unit created by Grady Sjokvist and Tracy Epp

NorKam Secondary School

Observed by Carol Rees

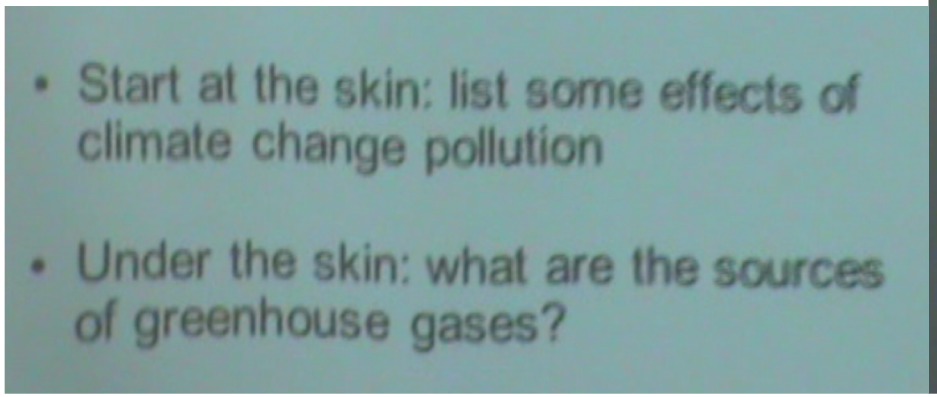
Thompson Rivers University

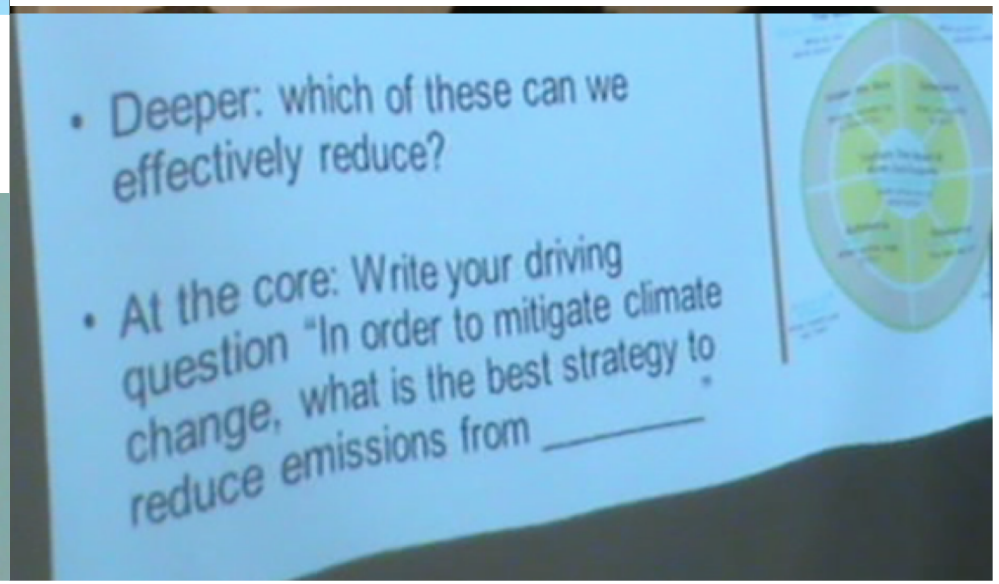
Introduction – Day 1 – Orientation: powerpoint, video, activity



https://www.youtube.com/watch?v=-Q0xUXo2zEY

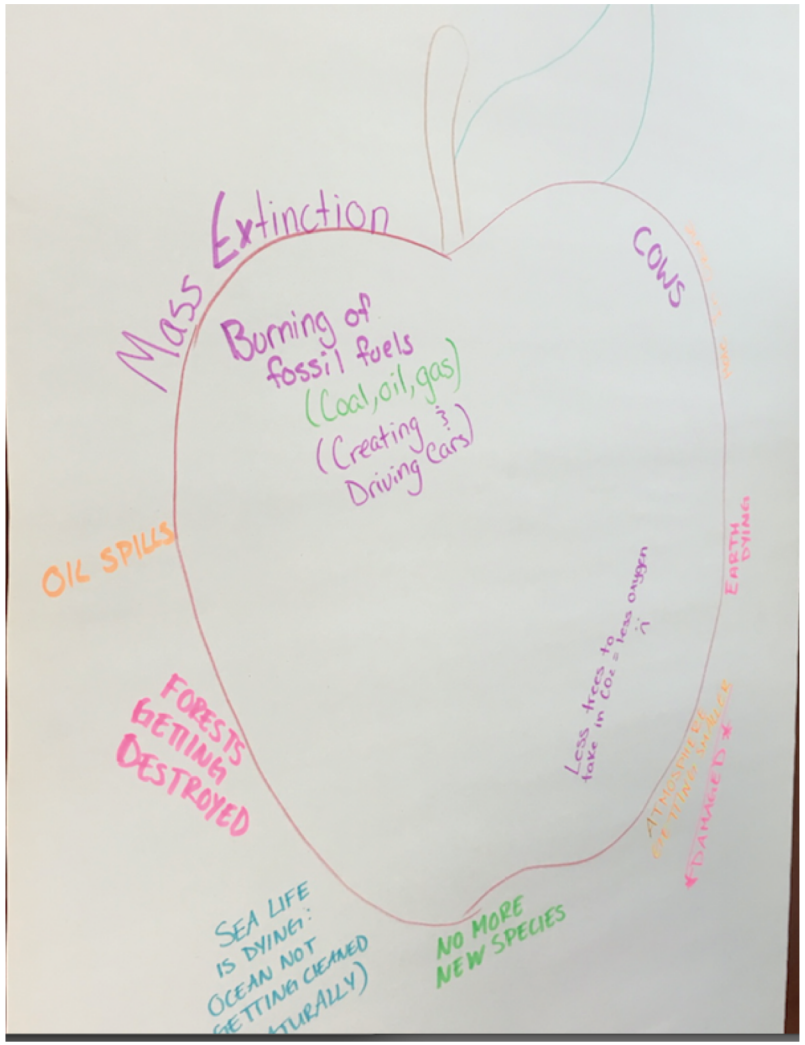
Peeling the fruit activity

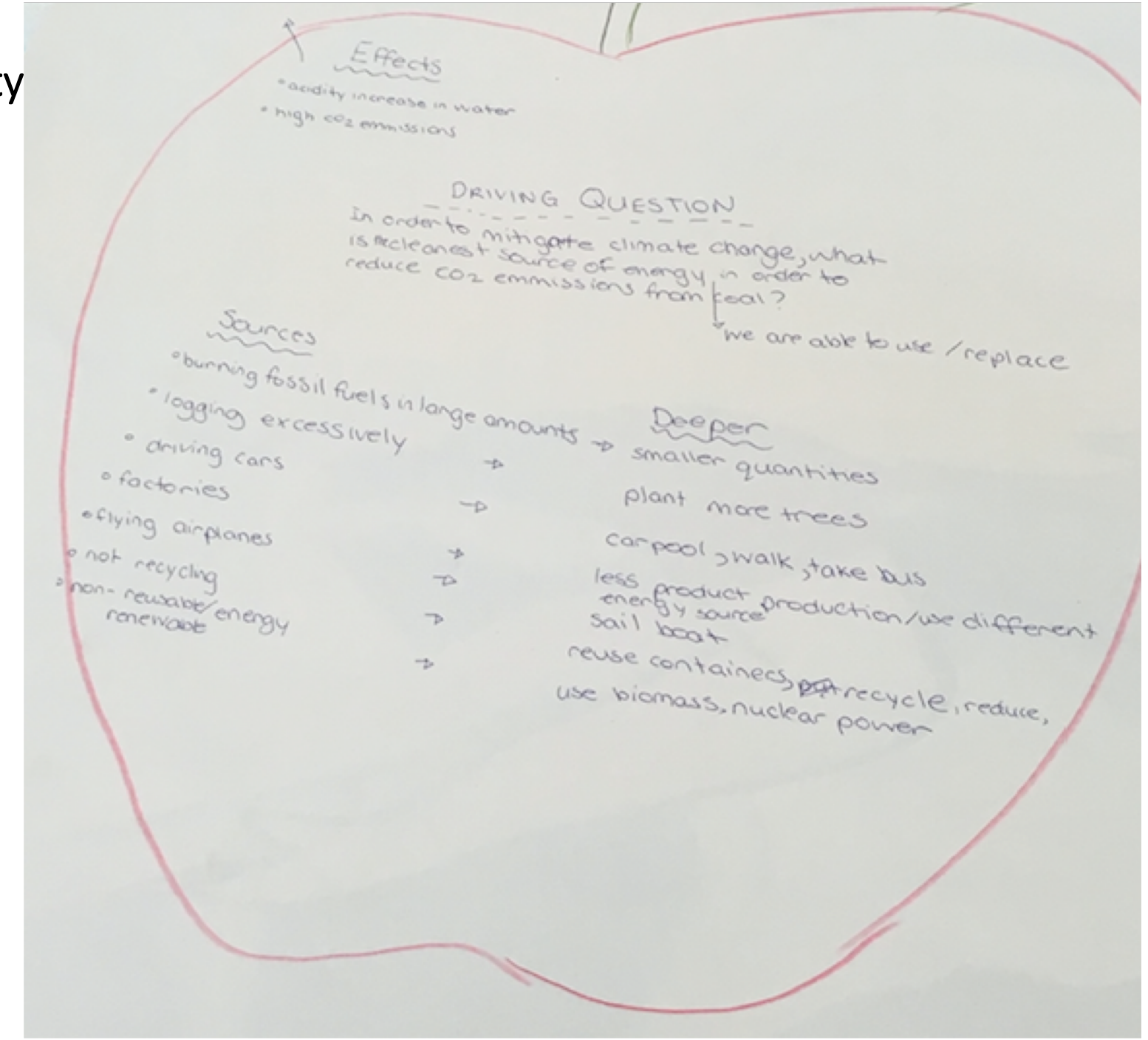




Day 1 – *Peeling the Fruit* activity

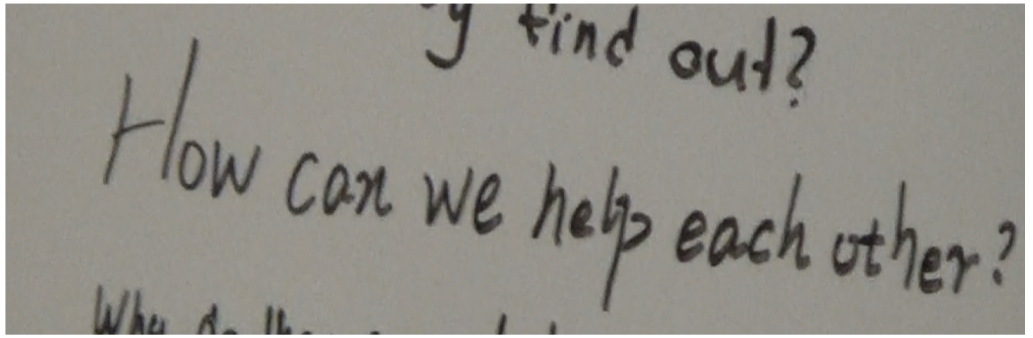
Students working in groups of 4





Day 2 & 3 – Indigenous Perspectives

- Watched a movie about science researchers working together with an Inuit community to solve a problem facing Muskoxen.
- Whiteboard Activity
  - Thinking about different perspectives on issues related to climate change.
  - Thinking about Indigenous perspectives on their particular issue.
  - Thinking about questions to ask the Indigenous guest speaker
- Indigenous guest speaker presentation & students' questions



Project Example – Let's Tree–t our Planet Better

- This group had the driving question: What is the most effective way, based on Kamloops environment, to increase the amount of CO2 that the main tree population sequesters?

What did this group of students in their project?

- Contacted a forester
- Researched information about the biogeography of the Kamloops area
- What is the most prevalent tree species? Douglas Fir
- Under what conditions will Douglas Fir trees sequester the most carbon? When they are growing most quickly
- At what age will Douglas fir trees sequester the most carbon?
  - Went to McQueen Lake
  - Collected Douglas Fir tree cores to find out about the growth cycle
- Found out that during the first ten years of life, the trees grow most quickly & sequester the most carbon, found out about optimum conditions for tree growth, costed out a tree planting project.

Unit Plan Overview

Name: Carol Rees	Grade: 11
Rationale: Climate change has real life relevance. This unit allows students to see the connection between the work they are doing in their science classes and real life. Students develop their core and curricular competencies through this unit.	
Overview: In this 13 lesson interdisciplinary unit students are first oriented to the climate change issue. They work in groups to choose and develop an idea that has potential to mitigate climate change. They consider Indigenous perspectives on their idea and they research their idea through information inquiry and hands-on science inquiry. They write-up and present their findings. They consider community and career connections and they develop literacy skills.	
Core Competencies: Communicating and Collaborating; Critical and creative thinking; social awareness & responsibility	

Science Discipline	Big Idea (depends)
Physics	e.g. Energy
Chem.	e.g. Organic Chem.

Math Big Idea (depends)
e.g. Algebra allows us to generalize relationships through abstract thinking

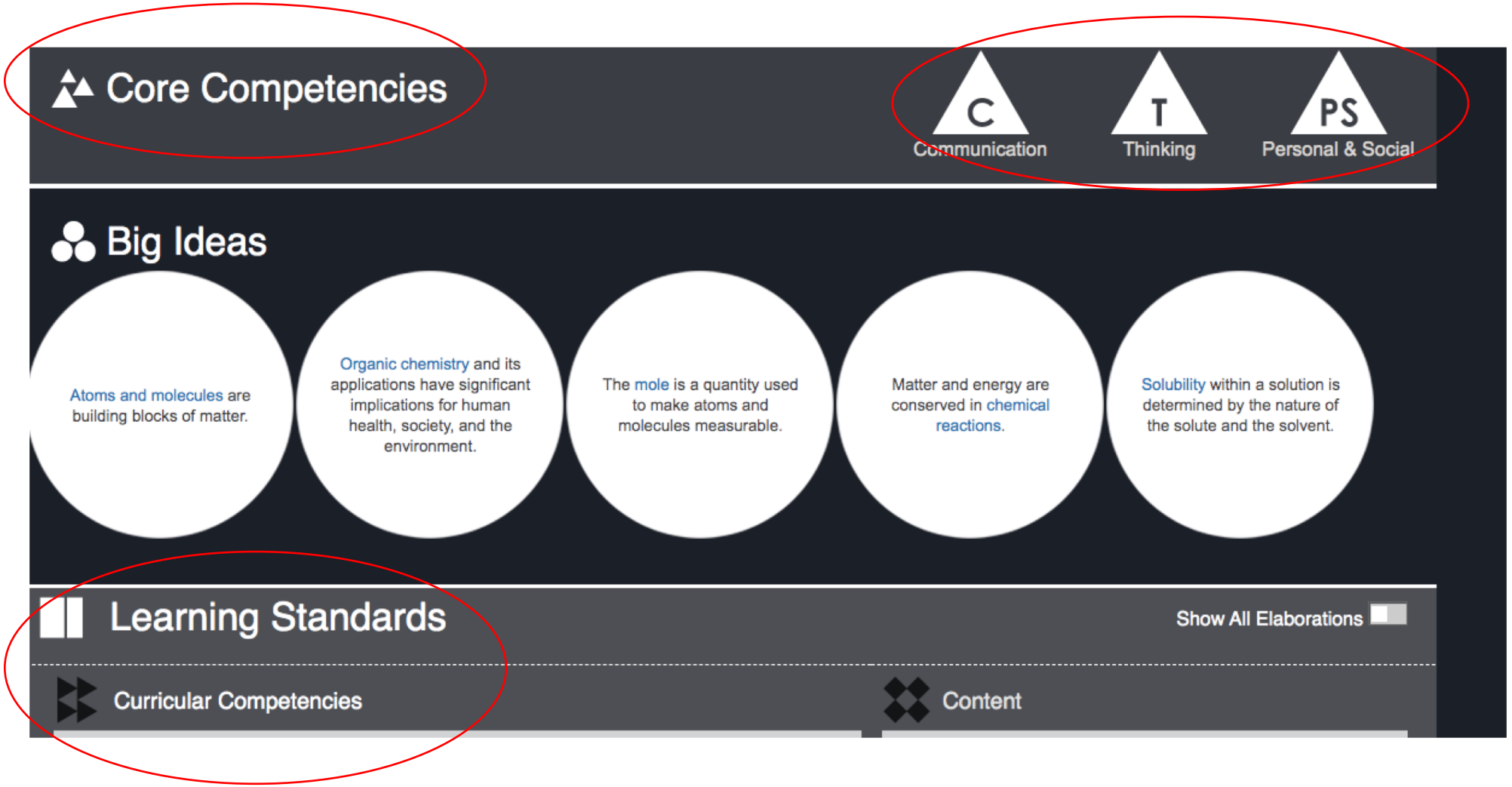
Community link
e.g. Forester; Indigenous community guest
Career link
e.g. Invited TRU experts e.g. natural resource management

Literacy Links
Specialized vocabulary
Digital literacy
Information searches
Writing & presenting

First Peoples Perspectives
Prep. Questions for Indigenous community guest
Indigenous community guest

Science Learning Standards		Math Learning Standards	
Curricular Competencies	Content (depends)	Curricular Competencies	Content (depends)
Questioning & predicting Planning & conducting Analyzing & Interpreting Communicating	Physics: e.g. conservation of energy; graphical methods Chem: e.g. reactions; the mole;	e.g. apply conceptual understanding of math. Ideas through inquiry present math ideas in pictorial symbolic form	e.g.

Connect to Curriculum



NorKam secondary school SD73

Grady Sjokvist & Tracey Epp

Stages	Day	Activities	Classes
Planning & Orientation	W. Nov 13	Introduction & orientation; groups planning (both classes together in library)	3 class
	Th. Nov 14	Planning question for the Indigenous community guest (indiv. classrooms)	
	F. Nov 15	Indigenous community visitor (both classes together in library)	
Project	M-F Nov 18-22	Searching topic information online & contacting experts; developing and conducting hands-on investigation/experiment (indiv. classrooms)	9 classes
	M-Th. Nov	Completing investigations and write-up; developing trifold presentation (indiv. classrooms)	
Presentation	F Nov 29	Presentations of learning (gallery walk + TRU guests)	1 class