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| **Name of Lesson:**<br>**Stereotypes by Numbers:  Investigating and Graphing the Representations of First Nation, Inuit and Métis peoples in School Library Materials** |
| **Grade Level:**  6 |
| **Time:**  200 minutes (4 x 50 minute math periods, last 2 math periods back to back) |
| **Objectives:**  To engage students in data collection and representation for real-world purposes as a summative assessment task, motivating them to see that graphical representations of data can be used to investigate real issues of representation of Aboriginal peoples in the school library. |
| **Curriculum Expectations:**<br>**Data Management**<br>   1)  Collect and organize discrete or continuous primary data and secondary data and display the data in charts, tables, and graphs that have appropriate titles, labels and scales that suit the range and distribution of the data, using a variety of tools<br>   2)  Select an appropriate type of graph to represent a set of data, graph the data using technology, and justify the choice of graph<br>   3)  Read, interpret and draw conclusions from primary data and from secondary data presented in charts, tables and graphs |
| **Assessment Strategies:**  Formative:  Observations and anecdotal notes about students' group work on the graphs with class data, collection of students' journal answers about which graphs they would use given their data. Summative:  Evaluation of students' graphing task (their individual graphs, rationales for choosing their graphs, and interpretations of their data) using a rubric (see attached). |
| **Accommodations and Modifications:**<br>Universal design for this lesson includes co-operative learning in mixed ability groups, which will prepare students to individually complete their summative assessment task.  ELL students will be placed in groups with a peer who speaks their language for co-operative learning activities.  To justify their use of the graph used, respond to their assignment question and justify their groups' choice of graph used in their journals, ELL students will be asked to either orally describe why they chose to represent the data the way they did, or write their reasons in their first language.  This will be interpreted later by another student who reads this language, by the ELL students' parents, or by other community members.  Students whose IEPs indicate difficulties with writing will be asked to orally justify their group's choice of graph rather than writing it in their journals.  They may also orally justify their graph and response to their question and the teacher will scribe for them. |
| **Materials required:**<br>  &bull;  Video *From Angela* (part of *The Circle Unbroken* series)<br>  &bull;  Access to school library (the library books that contain reference to First Nations peoples)<br>  &bull;  Class access to computer lab and excel software<br>  &bull;  Chart paper<br>  &bull;  Markers<br>  &bull;  Student question sheets (1 per student of their group's particular question)<br>  &bull;  Sticky notes<br>  &bull;  Pre-made chart papers with list of graphs students have studied and their uses. |

Along with visual representations of each graph, these charts will have the following information:

**pictographs**—graph using pictures or symbols to compare frequencies (used for discrete data), **horizontal or vertical bar graphs**—a graph using bars to represent the frequency. There are gaps between the bars to reflect the discrete nature of the data, **stem-and-leaf plots**—an organization of data into categories based on place value, which allows easy identification of the greatest and least values, as well as the median and mode. This type of graph only works when your results are numerical (i.e. not categorical data). **double bar graphs**—a graph that combines two bar graphs to compare two aspects of data in related contexts (e.g. comparing the populations of males and females in a school in different years), **broken-line graphs**—a graph formed by line segments where the x-axis represents discrete quantities (e.g. months or years) and the y-axis represents continuous quantities, and **continuous line graphs**—a graph that consists of an unbroken line and in which both the x and the y axis represent continuous quantities (like distance and time)

- Copies of their group's tallies combined with their partner group's tallies for each student
- Photocopies of rubric and assessment checklist (one per student)

**Math Period 1**
**Introduction (Hook):**
**Timing:** 10 minutes **Grouping:** Whole Class (together in a community circle)
**Stand-up, sit-down activity**
Explain to students that today we are going to be thinking about stereotypes and prejudice.
Have a pre-drawn tally chart ready that list the following statements, with a space to indicate how many students respond affirmatively to each statement. As the activity progresses, keep a tally of how many students stand up for each question and save the chart for later.
In order to get students thinking about stereotypes and prejudice ask students to do the following: "Stand up if the statements I read out loud apply to you or someone you know." Remind students that if they are uncomfortable, they have the right to pass and can just indicate they are passing by putting up their hand. (The teacher will also participate in this exercise to raise student comfort levels)

I or someone I know has:
1) been made fun of because of their cultural background.
2) been made fun of because of where they come from or where my parents come from.
3) been told by people that I will act a certain way because of their cultural background.
4) Has been told by someone that they are not smart because of their cultural background.
5) Has been bullied because of their cultural background.
6) Has been told people of their cultural background don't speak very well or have a funny accent.

Discuss the following with students:
1) Ask students to think-pair-share in response to the following: What do you think a

stereotype is?  Discuss student answers.
2)  Do you think that sometimes people stereotype people because of where they are from or because of their ethnic background?

**Timing:**  20 minutes  **Grouping:**  Small Groups
Divide students in to groups of 3-4.  Pose the following question to students:  Now that we are near the end of our unit on data management, I would like you to think about how we could represent this data using any of the graphs we have studied so far.  Distribute chart paper and markers to students and ask them to graph the data using any of the graphs we have studied that are appropriate for the data (draw their attention to the list of graphs and their uses).  Ask each group to present their graphs to the class.

Tell students that, individually, they must answer the following questions in their math journals:

Timing:  10 minutes  Grouping:  Individual
My group chose this graph because….
List two graphs you WOULDN'T use to graph this data.  Why wouldn't you use these graphs?
If we had collected data about whether each person who answered yes or no to each question was born in Canada or not born in Canada, what other kind of graph could you use?

Timing:  10 minutes  Grouping:  Whole Class
Show students two clips from the movie *For Angela* (one where she is riding the bus and being harassed by a boy who bullies her by calling her Pochahontas, singing the song "10 Little Indians," using stereotypical speech that implies Aboriginal peoples can't speak English, making fun of her braids, asking her if she lives in a teepee, and asking her if her mother is a drunk).
Discuss the following with students after the movie has ended:
   1)  What stereotypes did you hear the boy using?
   2)  Why were these stereotypes hurtful?
   3)  Ask students to think-pair-share to respond to the following question:  Why do you think people have developed these stereotypes about First Nation peoples?  Bring up the point that often stereotypes develop because we don't know very much about the lifestyle or culture of other people, and sometimes what we do see or hear is inaccurate.  Bring up points about how in books, on t.v. and in movies we see these stereotypes.

**Math Period 2:**
**Timing:** 50 minutes  **Grouping:**  Small Groups
Tell students that, in order to see how biased or stereotypical our own library books are, we are going to go investigate how they portray Inuit, Métis and First Nation peoples.  Tell students that they will be looking at different questions to think about this topic, and that to answer these questions, they will need to create tally charts of the data they get when we go to the library.

Divide students into 6 groups of 5 and assign each group to one of the following questions. Give each student a copy of the questions printed on a piece of paper. (Note: Each question will be investigated by two groups. To facilitate the process, before taking the class to the library, arrange with the librarian to have books on these subjects already pulled out and available to students. Organize the books on four tables. One table will be for biographies, one table for fiction books, one for the non-fiction books. Prior to the class going, divide the stacks of books in half so that each group will have their own randomly sampled stack of books to work with.)

Question 1:
How many biographies are there of First Nation, Métis, or Inuit peoples? How many biographies are there of people from Europe? Of these biographies, how many of these people are living? How many of them are dead?

Question 2:
Look at the illustrations of children's books. How many books show First Nation peoples:
Wearing feathered headdresses?
Wearing little clothing?
Living in teepees, igloos, wigwams or longhouses?
Living in modern day society?

Question 3:
Look at the non-fiction books about First Nation, Inuit, and Métis peoples. How many pages describe historical people or events? How many pages describe First Nations, Inuit or Métis peoples or communities today in a positive way (e.g. talk about the community, culture, family?) How many pages describe First Nations, Inuit or Métis peoples today in a negative way (e.g. talk about poverty, substance abuse, problems with the Canadian government?)

Have students collect data using the library books. Tell students that once their group has collected data in their tally charts, they must compare their group's data with the group who has the same question, and add the data together to get a complete data set.

**Math Period 3 & 4  (in computer lab):**

**Timing:** 60 minutes **Grouping:** Independent
Students will be given the rubric for this assignment (see attached). Using the excel spreadsheet software, with which they are already familiar, students will be asked to choose the type of graph or graph(s) they feel is/are most appropriate for representing the answer to their group's question. Students will be asked to justify their choices of graphical representation on a separate sheet of paper and hand it in with their graph. (Note: all instructions to students will be given orally as well as in a printed handout).

Students who investigated question 1 will be asked to answer the following question based on their graphs:

Do you think Europeans or Aboriginal historical figures are better represented in our library? Why? Do you think European or Aboriginal people living today are better represented in our library?

Students who investigated question 2 will be asked to answer the following question based on their graphs:
Does our library contain more stereotypical images of Aboriginal peoples than non-stereotypical images? Why or why not?

Students who investigated question 3 will be asked to answer the following question based on their graphs:
Do you think that these books are biased against First Nation, Inuit and Métis peoples? Why or why not?

5 minute transition time to get from computer lab to class

**Presentation and Debrief of findings:**
**Timing:** 15 minutes **Grouping:** Small Groups
Students with different questions will be divided into groups of four and will jigsaw and share their group's graphs, talking about what they learned about stereotypes.

**Timing:** 15 minutes **Grouping:** Small Groups
Each group will discuss the following question: Based on your data, do you think the library promotes a stereotypical or non-stereotypical view of Aboriginal peoples? Why? Each group will then present the results of their original data collection to the class and will provide their answer to the small group discussion question. Discuss the following with the class:
1) If there were more biographies of famous Aboriginal peoples living today, would that change our views? How?
2) If there were more information or pictures about Aboriginal cultures today, would that discourage stereotyping? Why?
3) If we knew more about the positive aspects of First Nation, Métis and Inuit life today, how would that affect our perceptions?
4) What can we do about how we are seeing Aboriginal peoples being portrayed in our school library?

**Extensions:**
Language Arts:
Curriculum expectations:
Writing
2.1 write longer and more complex texts using a variety of forms
Students can write letters to the principal of the school requesting that certain books be removed from the library because of the stereotypical imagery contained within them.

Language arts
Curriculum expectations

Writing
2.1 write longer and more complex texts using a variety of forms

Social Studies
Curriculum expectations
--identify achievements and contributions of aboriginal peoples in present-day Canada

Students can research a famous modern day First Nation, Inuit or Métis person, and present their findings to the class in the form of a written autobiography in the role of that person.  Students could then add these biographical accounts to the school library, and see how this information affected their bar graphs.

Rubric for Student Graphing Assignment

| Expectations | Level 1 | Level 2 | Level 3 | Level 4 |
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| Knowledge and understanding | --the student conveys a limited understanding of the characteristics of her/his chosen graphical representation in his/her explanation of the appropriateness of his/her graphical choice.<br>--the student's graph is missing many key elements (e.g. labels, titles, units, scale)<br>--the scale does not suit the range and distribution of the data | --the student conveys some understanding of the characteristics of her/his chosen graphical representation in his/her explanation of the appropriateness of his/her graphical choice.<br>--the student's graph is missing some key elements (e.g. labels, titles, units, scale)<br>--the scale somewhat suits the range and distribution of the data, but it is not clear | --the student conveys a general understanding of the characteristics of her/his chosen graphical representation in his/her explanation of the appropriateness of his/her graphical choice.<br>--the student's graph has all the key elements (e.g. labels, titles, units, scale)<br>--the scale suits the range and distribution of the data | --the student conveys a thorough and clear understanding of the characteristics of her/his chosen graphical representation in his/her explanation of the appropriateness of his/her graphical choice, relates this choice directly to his/her data.<br>--the student's graph has all the key elements (e.g. labels, titles, units, scale) and the visual presentation of the graph makes it easy for the reader to interpret the information<br>--the scale suits the range and distribution of the data |
| Communication | --The student uses mathematical language with limited clarity to explain or justify his/her choice of graph<br>--the student uses limited mathematical and everyday language to interpret her/his data in words. | --the student uses mathematical language with some clarity to explain or justify his/her choice of graph<br>--the student uses some appropriate mathematical and everyday language to interpret her/his data in words. | --the student appropriately uses mathematical language that explains or justifies his/her choice of graph<br>--the student uses appropriate mathematical and everyday language to interpret her/his data in words. | --the student appropriately uses mathematical language that explains and justifies his/her choice of graph, and provides reasons why other graphs would not have been as appropriate.<br>--the student clearly uses mathematical and everyday language to interpret his/her data in words |
| Application | --The student chooses a graphical representation that does not effectively convey his/her data | --The student chooses a graphical representation that somewhat effectively conveys his/her data | --The student chooses a graphical representation that is generally effective in conveying most aspects of his/her data. | --The student chooses a graphical representation that is extremely effective in conveying all aspects of his/her data. |
| Thinking | --The student's inferences about his/her graph are minimally supported by data. | --The student's inferences about his/her graph are somewhat supported by data, but the student only takes some of the data into account. | --The student's inferences about his/her graph are generally supported by data. The student takes most of the data into account when making these interpretations. | --The student's inferences about his/her graph are completely supported by the data. The student takes into account all of the data in making these interpretations. |