Canada C3 Digital Classroom Learning Module

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Learning Module Title: What Is Canada?
Grade(s)/Teaching Division(s): Grade 3
Subject(s)/Course(s): Mathematics, Social Studies
Time: 75 minutes

Learning Module Topic & Description

This lesson will build upon students' graphing concepts, whilst exploring our year-long classroom theme, *What is Canada?* Students will produce bar graphs, first in a guided process as a class, and then in a shared experience in small groups.

This lesson, which I designed, is the introductory lesson of the *What is Canada?* unit, which I wrote in collaboration with Bethany Clement. The unit is meant to explore the Canadian identity, and how our past has shaped our present. It is introduced with a mind map activity, inviting students to answer the question *What is Canada?* The unit is then bookended with the creation of a second mind map, again answering this same central question, to reflect upon how the ideas have evolved into a more complex and informed level of understanding.

I suggest that both mind maps be displayed in the classroom throughout the year, in order to contribute to the overall classroom theme, commemorating and celebrating Canada's 150th anniversary of Confederation.

Essential Question(s)

- Can we answer the question *What is Canada?* by exploring key components of the Canadian identity?
- How can we conduct a survey, and graph our information?
- How do the graphs' data help us answer the question *What is Canada?*

Canada C3 Central Theme(s) Addressed

- Diversity and Inclusion

Learning Objective(s)/Goals

Student performance:
- Students will work in small groups to produce properly labeled bar graphs, reflecting data they have collected that reflects our theme, *What is Canada?*

Knowledge, skills, attitudes/values:
- Students will advance their knowledge of bar graphs.
- Students will use mathematical language.
- Students will learn that bar graphs can be vertical or horizontal.
- Students will read, understand, and draw conclusions from the data presented in various bar graphs.
- Students will begin to develop an understanding of, and appreciation for, key components of the Canadian identity, with a focus on multiculturalism, religious freedom, and language diversity, and how this identity has evolved from the 1800s to today.

Essential Concepts/Knowledge/Skills to be Learned/Applied

- Gathering information (survey, tally marks)
- Graphing (bar graphs)
- Critical Thinking

Curriculum Connections/Big Ideas

Ontario Ministry of Education Curriculum Expectations:

Mathematics – Strand: Data Management and Probability
Overall Expectation:
- Collect and organize categorical or discrete primary data using charts and graphs, including vertical and horizontal bar graphs, with labels ordered appropriately along horizontal axes as needed.

Specific Expectations:
- Collect data by conducting a simple survey about themselves, their environment, issues in their school or community, or content from another subject;
- Collect and organize categorical or discrete primary data and display the data in charts, tables, and graphs (including vertical and horizontal bar graphs), with appropriate titles and labels ordered appropriately along horizontal axes as needed;
- Read primary data presented in charts, tables, and graphs (including vertical and horizontal bar graphs), then describe the data using comparative language, and describe the shape of the data;
- Interpret and draw conclusions from data presented in charts, tables, and graphs.

Social Studies – Strand: Heritage and Identity (Communities in Canada, 1780-1850)
Overall Expectation:
- Compare ways of life among some specific groups in Canada around the beginning of the nineteenth century, and describe some of the changes between that era and the present day.

Specific Expectation:
- Identify some key components of the Canadian identity (e.g., bilingualism, multiculturalism, founding nations, religious freedom), and describe some of the ways in which communities that were in Canada around the early 1800s have had an impact on Canadian identity (e.g., with reference to Canada's official languages, cultural contributions, place names, observances such as National Aboriginal Day or Black History Month).

Teacher Goals
The intent is to engage students in a meaningful graphing task, by connecting it to a big idea (*What is Canada?*) that we can explore over not only one unit, but continually, as a year-long classroom theme in celebration of Canada C3/Canada's 150th.

Student Groupings *(e.g., whole class, small groups, pairs, independent work)*:	Materials/Resources *(e.g., equipment, PowerPoint/Keynote slides, manipulatives, hand-outs, games, assessment tools)*:
• Whole class • Small groups	• PowerPoint, Prezi presentation, or short video about demographic changes in key components of Canadian identity over time • Blank paper • Graph paper • Clipboards • Pencils • Class lists • Markers • Rulers • Large Bristol boards or grid-ruled chart papers for display
Instructional Strategies *(e.g., direct instruction, demonstration, simulation, role-playing, guest speaker, etc.)*:	**Considerations** *(e.g., contingency plans re: technology failure, student absences or groupings, guest speaker cancellations, or safety concerns)*:
• Direct instruction, using a PowerPoint, Prezi presentation, or short video • Demonstration • Class brainstorm	• Have handouts or overhead slides that can be used in place of PowerPoint, Prezi, or video in case of technology failure. • What if you feel your classroom happens to "lack diversity"? Pay attention to the survey questions, and don't use those that will not reflect diverse answers. (i.e., If you know that all students in your class were born in Canada, don't use the "What country were you born in?" question.)

Accommodations & Differentiation Strategy *(to address different needs & preferences of students)*
• The Ontario Ministry of Education includes "Flexible Learning Groups" (based on interests and readiness) as one of four key components of differentiated instruction (DI). For the purposes of this lesson, groups will be formed based on readiness, as demonstrated by their success in this Mathematics strand during the previous grade. • Another key component of DI listed by the Ministry is "Respectful Tasks", which seeks to ensure that students who are struggling with concepts are given tasks that are just as interesting as those of other students. Students struggling with concepts in this lesson are given a less complex version of the same task. • A third component of DI is "Personal Response and Choice", which recognizes, through multiple intelligences and learning styles, that some students work best individually. The group task in this lesson could be performed individually, if that is what would serve the learner best.

Assessment for Learning, Checking for Understanding, Success Criteria & Feedback

Purpose:
- A diagnostic assessment will be conducted at the beginning of the lesson to gauge which students need more help grasping the concepts that were introduced in the previous grade.
- Formative assessment will be performed both during and at the end of the lesson, to gauge whether students are ready to move on to more complex graphing concepts, or need more review.

Tools:
- A combination of observation, interviews, and peer assessment strategies will be used.

Motivational Hook *(process for acquiring & focusing students' attention)*, Time *(5 minutes)*

- Gather as a class in a circle (e.g., on the carpet), in front of a large flip chart or Bristol board. (If the classroom is not conducive to this, this activity can also be done with the students sitting at their desks.)
- Write *What is Canada?* in a bubble at the center of the chart.
- Invite students to answer this question, while writing their answers around the bubble.
- Examples of expected answers could be "Canada is a country" or "Canada is my home", but there are no wrong answers! This is an open brainstorm for everyone to participate in.
- If necessary, support the class's brainstorming with leading questions such as, "Do you think Canada is a welcoming place? Why? What kind of things do we like to do in Canada? What kind of sports do we like?"

Open *(process for introducing/framing module & agenda)*, Time *(5 minutes)*

- Ask students to think about their favourite ideas from this brainstorm.
- Help the class to decide what their top three favourite ideas are.
- Conduct a vote on the top three ideas ("Which, of these three, do you like the best?"), and model using tally marks to record the results.

Body *(main instructional & learning processes to build understanding, skills, attitudes)*, Time *(15 minutes)*

- Together as a class, using the tally marks for reference, create a bar graph that shows the results of the class vote for the favourite answer to *What is Canada?*
- Pay special attention to giving the graph a proper title and labels, and using mathematical language (e.g., bar graph, x and y axis, vertical, horizontal, data, conclusion, etc.).
- Show how the data could be displayed with either a horizontal or vertical bar graph.
- During this activity, assess prior knowledge by noting which students are comfortable with the graphing concepts, and which students may need more practice. If the class is familiar with the "thumbs up/thumbs down/thumbs sideways" assessment technique*, this could be a good time to utilize it.
- Share with the class some facts about the key components of Canadian identity, paying attention to:
  - Multiculturalism: Our founding peoples (Indigenous, French, British), and how Canada has evolved into the cultural mosaic it is today through immigration. [Note: The teacher should point out that, of the many diverse First Nations, Métis, and Inuit communities, some may not feel that they are "founders" of Canada. This is a big topic, that can form a lesson, or unit, onto itself; therefore, it may prove valuable to have had some of these conversations prior to this lesson.]
  - Language Diversity: The languages of our founding peoples (including the vast diversity of Indigenous languages before contact, and the languages of the French and British settlers), and how Canada is a country where many languages are spoken today.
  - Freedom of Religion: While many Canadians identify as Christian, there are growing populations of Muslims, Jews, Hindus, Sikhs, and people of other faiths, and Canada respects and protects the rights of all people to practice their religion. *continued…*

- Include students in the above discussion by asking questions about these key components, for example:
  - "What are some languages, other than English or French, that are often spoken in Canada? Do you have friends or family members in Canada that speak another language?"
  - "Was anyone here born in another country? Were your parents born in another country?"
  - "Does your family visit a place of worship? Which kind?"
- Use PowerPoint slides, a Prezi presentation, a video, handouts, or overheads with vertical and horizontal bar graphs to explore topics such as: Canada's population growth over time; languages spoken in Canada, in the 1800s and now; and religious diversity in Canada, in the 1800s and now.
- Discuss as a class what these bar graphs tell us, while reviewing key features of bar graphs and mathematical language.
- As these graphs will be using large numbers, there will likely be "many to one" representations (i.e., one square equals 10,000 people). Take the opportunity to introduce this concept, thus laying the groundwork for future lessons wherein students create "many to one" graphs.

* This assessment technique asks students to monitor their own comfort level with the material being taught. At various points throughout the lesson, the teacher can ask students to "check in" with their thumbs to demonstrate how well they understand particular content. Students who feel they understand the content well give a thumbs up, students who feel they understand some of the content (but not all) turn their thumbs to the side, and student who do not feel they understand the content give a thumbs down. Students display their thumbs close to their chests, to remain private (and hopefully provide an honest answer).

| Consolidation *(processes for application & practice of knowledge, skills, attitudes)*, **Time** *(40 minutes)* |

- Split students into groups of four or five, depending on class size:
  (A) – Students who seem very comfortable with graphing concepts,
  (B) – Students who seem somewhat comfortable with graphing concepts,
  (C) – Students who appear to be struggling with graphing concepts.
  - Recognizing the concepts of differentiated instruction, the teacher may wish to allow certain students to complete this task individually, rather than in a group, if that would better serve their learning style.
- Give each group a clipboard, pencil, blank paper, graph paper, class list, Bristol board or grid-ruled chart paper, ruler, and markers.
- Provide each group with a survey question to conduct, differentiated according to group readiness with varying degrees of difficulty (i.e., more basic for C group students, to more complex for A group students), based on the lesson's earlier information about Canada and the *What is Canada?* mind map ideas. Examples could include:
  - What country were you born in? (A group – open response question)
  - What is your favourite season? (B group – limited response question)
  - Can you speak a language other than English or French? (C group – yes/no question)
- Instruct students to conduct their surveys using tally marks on the blank papers on their clipboards, by visiting the other groups and asking their question, and making sure to tick off each student's name on the class list as they answer. Make sure students remember to include themselves in their data collection! Tell students that they can mark absent students with an "A" on their class lists.
- When their surveys are complete, instruct students to use their tally marks to create a bar graph, first as a rough copy on their graph paper, and then as a final copy on their Bristol board or grid-ruled chart paper.
- As students conduct their surveys and create their graphs, float around the room and offer assistance where needed, which may be required most from C groups. This will provide an opportunity for formative assessment: Who is struggling? What concepts, if any, are proving difficult?   *continued…*

[Note: I would advise against introducing students to graphing software or other technological graphing tools at this point. Students, particularly at this young age, need to learn how to perform these tasks "hands on", by themselves, before learning how to utilize technological tools.]

Closure *(processes for recapping, looking ahead)*, **Time** *(10 minutes)*

- When students complete their graphs, display these around the room. Gather together as a class to do a gallery walk, in which each group will present their graph and answer questions from the instructor and fellow classmates.
- Instructor questions could include:
  - Why did you choose to use a vertical/horizontal bar graph?
  - What conclusions can we draw from this graph?
  - Do your results tell you that our class reflects multiculturalism/language diversity/freedom of religion? Why or why not?
- Invite classmates to offer feedback on the graphs (peer assessment), and provide oral feedback to each group as well (formative assessment).
  - This process is an opportunity for the teacher to gauge if students are still struggling with bar graph concepts, or if they are ready to move on to making graphs individually and learning more about/utilizing "many to one" techniques. The teacher can keep track of oral feedback given to students by jotting down notes that can be added to student portfolios or another assessment toolkit.
- Display the *What is Canada?* mind map on the class bulletin board or another display surface. Towards the end of the year, after having discussed this theme across inter-disciplinary units, co-create a new mind map about this same question. Compare it to the original to reflect upon how the answers have changed.

Student Reflection on Learning *(i.e., critical thinking questions to extend the learning)*

- How could I extend my graph to include the whole school or the whole city?
  (How are large graphs created?)
- How do these graphs help me to better understand the data I've collected in a survey?

Extension Ideas & Additional Resources

- This lesson was designed to be part of a unit that I developed with fellow University of Ottawa student Bethany Clement, wherein we continue to explore the key question *What is Canada?* over nine lessons, covering approximately three weeks.
- Being cross-curricular in nature, the unit brings together Mathematics, Social Studies, and Language lessons, including graphing, charting, data collection, research, writing, and mixed media tasks, with many lessons taking place concurrently.
- The main focus is to find an answer to the essential question of *What is Canada?* through various explorations of Canada, its key components, and its history.
- Lessons include:
  - Recording time and temperature of a Canadian city every day for one week in a log book.
  - Reading and evaluating various types of magazines and newspapers, involving stories about Canada then and now.
  - Gathering books from the library and reviewing websites to learn how to research a topic. Finding interesting facts about Canada from 1780 – 1850, displaying these on a bulletin board in categories (e.g., food, homes, work, etc.), and discussing them with "then and now" comparisons.

continued…

- Creating a magazine/newspaper article, detailing at least three facts about the city they were assigned for the temperature activity, with a focus on "then and now" comparisons.
- Attending "The People of New France: Forging Relationships, Changing Landscapes"** educational program at the Museum of History.
- Creating an advertisement for a commonly-traded item that we learned about during the museum field trip.
- Creating line graphs (based on the temperature log students kept), discussing and comparing results, and talking about temperature changes over time (e.g., "Which temperatures were common in the 1800s? Which temperatures are common now?"). Creating a Venn diagram of "then vs. now" weather phenomena.

- These lessons build towards a culminating task, wherein students create a "Then and Now" magazine/ digest about Canada and their assigned Canadian city.
- ** http://www.historymuseum.ca/wp-content/uploads/2016/08/teacher-overview-pnf-2015-en.pdf

Teacher Reflection *(e.g., notes for next time)*

- Were the students engaged with the *What is Canada?* mind map activity?
- Was there sufficient time in this lesson to cover the three criteria (multiculturalism, language diversity, freedom of religion) we wished to address?