



## Project: Where's the Math?

### BIG PICTURE

Students will:

- Determine that math is evident in all aspects of life;
- Research, analyse and present statistical trends in data on a social justice topic;
- Compare costs involved in hosting a summit at various community locations;
- Determine and justify the best location for hosting a summit at a community location;
- Apply knowledge and understanding of everyday math problems to organize and produce a summit on Social Justice.

Component	Lesson Title	Math Learning Goals
1	What is Social Justice?	<ul style="list-style-type: none"> <li>• determine students' prior knowledge of social justice</li> <li>• activate students' prior knowledge of analyzing trends on a scatter plot graph</li> <li>• activate students' prior knowledge of solving for unknown values in an algebraic equation</li> <li>• brainstorm social justice topics and relate possible trends to students' lives</li> </ul>
2	Social Justice Research (What does social justice have to do with me?)	<ul style="list-style-type: none"> <li>• analyse statistical trends of a social justice issue</li> <li>• connect statistical trends to the impact on students' daily lives</li> </ul>
	Social Justice Presentation	<ul style="list-style-type: none"> <li>• create and share a presentation on statistical trends of a social justice issue and the impact on our daily lives.</li> </ul>
3	Location, location, location	<ul style="list-style-type: none"> <li>• compare the costs of hosting a summit at various community facilities</li> <li>• justify the best location of a summit at a local community facility</li> </ul>

4	Organizing the summit Little hands with Big hearts	<ul style="list-style-type: none"> <li>determine the math used when planning, organizing and running a summit;</li> <li>solve everyday math problems related to planning, organizing and running a summit.</li> </ul>
	And so what we have learned...	<ul style="list-style-type: none"> <li>determine students' post-unit knowledge of social justice</li> <li>activate students' post-unit knowledge of analyzing trends on a scatter plot graph</li> <li>activate students' post-unit knowledge of solving for unknown values in an algebraic equation</li> </ul>

## LEARNING PLAN

### Component 1: What is Social Justice?

**Big Ideas:** Students will be able to:

- identify and understand global and local social justice issues
- communicate and support opinions on social justice topics

#### Getting Started with “The Hook”

**4 Corners:** Create a “Have/Have Not” society within your classroom based on a social injustice.

Materials: pre-made fact sheet on the dangers of tap water(<http://naturalbias.com/the-deadly-dangers-of-water>), pre-made ad for ‘new/improved’ flavoured water, costuming for the CEO

*Example:*

- Teacher enters room in character as CEO of “Le Naïve”(make up a bottled water company)
- CEO has come to the room to do a ‘customer survey’. Have certain corners or sides of room designated as response answers. Pose the following questionnaire to the classroom.
  - What do you prefer...nice clean refreshing bottled water or typical run-of-the-mill tap water (that could or could not be infected with bacteria)?*
    - Students that choose tap water are then asked to sit back down and read a pamphlet on the dangers of tap water
    - Those that choose bottled are praised for their smart healthy choice and will continue with the questionnaire
  - In previous surveys, “Le Naïve” has come to understand that some consumers find water boring. To battle such image issues we are considering adding 10g of flavor (aka sugar). If you prefer boring bottled water, please go over there (point to a corner). BUT if you would like to enjoy something exciting and new in the bottled water world, please graciously find your way to that corner.*
    - Those students that picked boring water will be asked to sit down and read over the ad campaign for the new flavoured water
    - Those that choose flavoured water are praised for their innovative thinking and will continue with the questionnaire
  - To subsidize the cost of flavouring water, the cost of the new flavoured water will have to increase. If you think that we at “Le Naïve” should only double the current price of \$1.00, please stand over here. If you think that it is only fair and makes logical sense*

*to increase the rate by a mere 3 times the current price, please stand over here.*

- Students that choose 2x are asked to sit down
- Students that choose 3x are again praised. "I like the way you think. You're going places. If I'm not careful you could be taking my job!"
  - *Lead the selected group into giving you 'sound bites' to help sell product.*
- Teacher leaves room and adds these quotes to one copy of the pre-made ad for new/improved flavoured water.
- Teacher re-enters room as themselves with pre-made quoted ad in hand and announces that the school board has just signed a 10 year contract with "Le Naïve Water Company". Le Naïve will be the only water sold and allowed in our schools. It will be sold for \$3.00 a bottle. All water fountains will be shut down, for student safety. Le Naïve understands that not all students may initially have access to their product and may wish to bring in their own from home. That is only fair... however, those choosing/attempting to bring in other forms of water (including ice) will be asked to pay the difference in cost (as long as they have a receipt).
- Allow for student reaction and discussion.
- Segue into...

### Active Participation

**The Definition:** Choose a visual piece (youtube video, guest speaker, newspaper article, slideshow, art work, etc.) which depicts and creates discussion on a global social issue. Break into teams (groups of 4-5) and have the group come up with a definition of social justice. This definition should be made based on the example of injustice found in the hook or in the example shown below ("if this is an injustice, what is social justice?"). All teams come together, as a class discuss and create a definitive classroom definition of social justice.

*Example:*

- View "The Story of Bottled Water" (<http://www.youtube.com/watch?v=Se12y9hSOM0>)
- Discuss how the bottled water industry dictate consumer habits and how this is a social injustice. Include how this affects people at a global level and then at a local level (simple survey: Who here drinks bottled water? Find a classroom weekly average. Monthly average. Yearly. Do all bottles get recycled? Can we infer any potential crisis? Where does the water come from? Who controls the distribution?)

*Example: "the distribution of advantages and disadvantages within a society"*

- Dictionary.com

### Self-directed learning

**Meta-cognition:** Students will complete a self-reflection activity in their learning logs regarding what they did, how they felt and what their next steps are (ex. Should I be purchasing bottled water?)

**Assessment Opportunity:** Formative assessment of learning log.

### Concluding the lesson

**Next steps:** As a class brainstorm topics of social justice (ways we can make these issues advantageous on a global level, national level and local level). Students are to create a list of topics that interest them as they will begin initial research in the following lesson(s).

## LEARNING PLAN

### Component 2: Research a Social Justice Topic

**Big Ideas:** Students will be able to:

- locate information on a Social Justice issue
- analyze statistics (numbers, graphs) on a Social Justice issue
- evaluate statistics and identify trends
- synthesize the information and statistics to make a personal connection

#### Getting Started Teacher Modeling:

From <http://www.un.org/millenniumgoals/poverty.shtml> (a good starting point) using statistical information on a social justice (world water quality), showing text, numbers and graphs, the teacher analyzes the statistics to find and show trends in the data. With discussion, students synthesize the data to create personal connections at a local, national and/or global level. (see Component 2: Appendix A for sample statistics and leading questions)

#### Active Participation / Self-directed learning

- Using <http://www.un.org/millenniumgoals/poverty.shtml> students examine the 8 Millennium Development Goals to determine a social justice topic of interest.
- Students choose and research a social justice.
- Using the data from their research, students show the present “picture” on their social justice topic.
- Students will evaluate and connect to what is being done, or can be done at a local level to help awareness in the community.

(see Component 2: Appendix B for sample Assignment and Rubric)

**Assessment Opportunity:** Formative assessment throughout research project (for example student conferences), Summative assessment of presentation of research and extension activities: persuasive letter and/or summit presentation.

NOTE: An excellent persuasive letter rubric can be found from “Read.Write.Think” NCTE/IRA

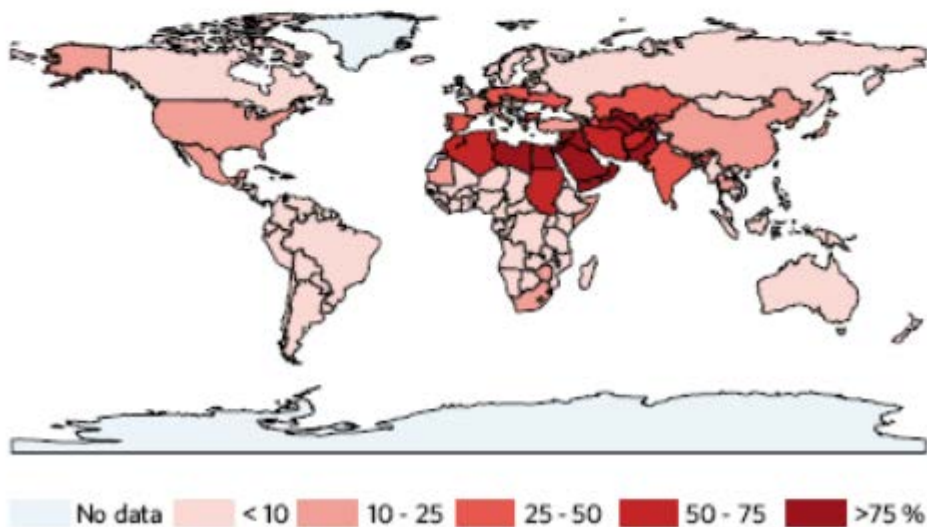
#### Culminating Presentation

Students will create a presentation, in the medium of your choice, using numbers from a social justice issue to show the impact it has on humanity.

## Almost half of the world's population face a scarcity of water

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Surface water and ground water withdrawal as percentage of total actual renewable water resources (around 2000)



(From The Millennium Development Goals Report 2008, United Nations)

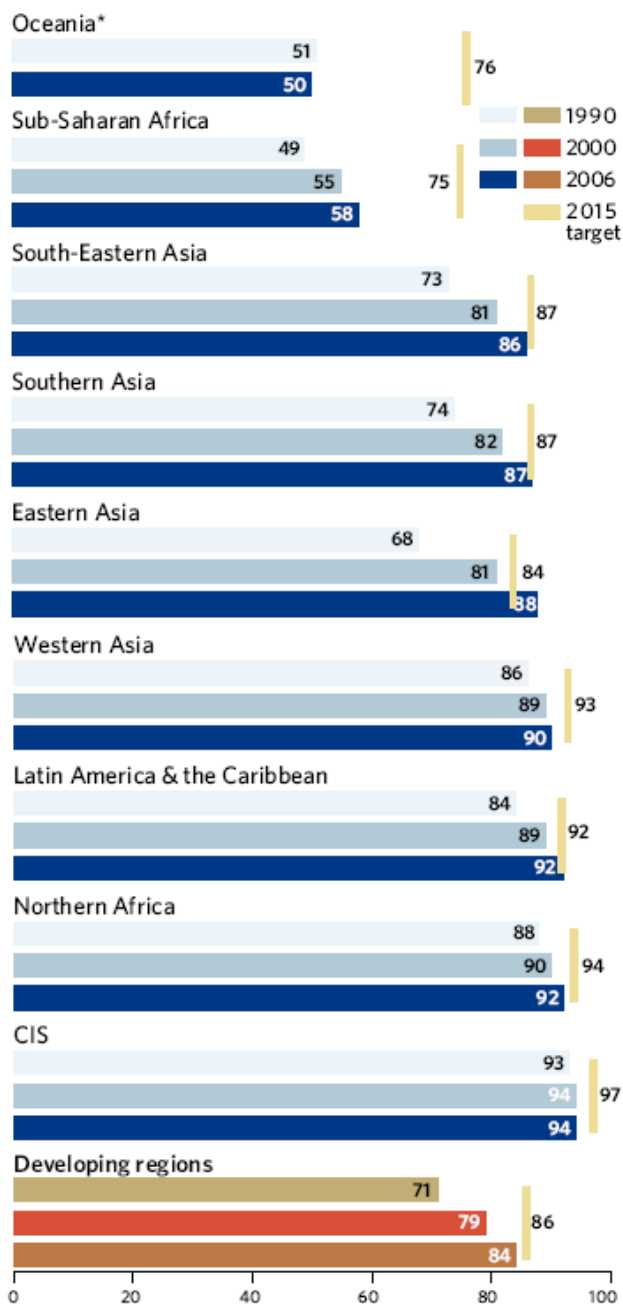
Guiding Questions:

- What does the title mean?
- What do the different colours imply?
- What does it mean that Northern Africa is over 75%?
- Why are the United States and Canada different colours?

## Component 2: Appendix A continued

### Though access to improved drinking water has expanded, nearly one billion people do without

Proportion of population using an improved drinking water source, 1990, 2000 and 2006 (Percentage)



(From The Millennium Development (from the Millennium Development Goals Report 2008, United Nations)

Guiding Questions:

- What does the title mean?
- What do the different colours indicate?
- Predict a proportion of population using improved drinking water source for this year.
- Why are the targets not 100?

Component 2: Appendix B

# Social Justice Now!

Create a presentation, in the medium of your choice, using numbers from a social justice issue to show the impact it has on humanity.

1. **Choose a Social Justice topic.** Use the UN's 8 Millennium Development Goals <http://www.un.org/millenniumgoals/poverty.shtml>, or from suggested topics below.

Local	National	Global
Poverty Animal Rights Community Living with disabilities Local Environmental Prejudice Racism Employment/Labour Youth Violence Stereotypes	Water conservation Death Penalty Prejudice Racism Historical/Land Rights of Natives Employment/Labour Youth Violence Mass media bias (body image) Stereotypes Disasters	Fair Trade Environmental Justice Global Warming Children's rights Women's Rights Child Labour Arms Trade Natural Disasters AIDS in Africa Wildlife conservation Rainforest Wealth distribution (globalization) Education for all Medical / Health Care Food Child soldiers Stereotypes Natural Disasters

2. **Research an issue based on your topic. Your research must include:**
  - a. General overview of the issue
  - b. Statistics demonstrating trends
  - c. Impact of the issue on society
  - d. How is this issue currently being addressed?
  
3. **Present your findings to the class. Your presentation must include:**
  - a. Supported research findings on your issue
  - b. Visual Aids to support your research data
  - c. What we as an individual/class/school/community can do to positively impact the social justice issue
  - d. Be prepared and allow for feedback and questions at the end of the presentation

## Component 2: Appendix B(continued)

### 4. Extension:

- a. Prepare a persuasive letter describing your social justice issue, and action that should be undertaken to address your social justice topic.  
(E.g. a letter to the local Member of Parliament, a letter to the school principal requesting to fundraise towards the issue)
- b. Present your Social Justice presentation at The Social Justice Summit.

## Social Justice Research Rubric

Criteria	Level 4 (all)	Level 3 (most)	Level 2 (some)	Level 1 (few)	Not complete (Re-do)
<b>KNOWLEDGE AND UNDERSTANDING</b> <ul style="list-style-type: none"> <li>• Share your knowledge on your Social justice issue.</li> <li>• Demonstrate your understanding of trends in your social justice issue.</li> </ul>					
<b>THINKING AND INQUIRY</b> <ul style="list-style-type: none"> <li>• Create a visual model to represent statistical information found in your research.</li> <li>• Interpret trends from statistics, charts and/or graphs.</li> <li>• Reflect on ways to positively impact a social justice issue.</li> </ul>					
<b>COMMUNICATION</b> <ul style="list-style-type: none"> <li>• Present your findings to the class using oral and visual representations of your social justice issue.</li> <li>• Use appropriate language for the statistics and social justice issue.</li> </ul>					
<b>APPLICATION</b> <ul style="list-style-type: none"> <li>• Connect your social justice issue and its trends to your personal life.</li> <li>• Relate your social justice issue to its impact on local, national and/or global life.</li> </ul>					



## LEARNING PLAN

### Component 3: Location, Location, Location

**Big Ideas:** Students will be able to:

- Represent linear growing patterns using graphs, algebraic expressions, and equations.
- Apply a variety of data management tools to make convincing arguments about data.
- Choose and justify a location to hold a social justice summit

#### **Getting Started : Setting the Stage**

Students are now knowledgeable and passionate about specific social justice topics. The next step is to give the students a real audience to pass along their messages. Pose the question, Is it enough to be finished with our new knowledge about social justice topics, or should we educate a wider audience about these issues? How do we do this? Through questioning, lead students into wanting to organize a social justice summit in your community. Have them watch an example promotional video from another social justice summit done internationally (<http://www.youtube.com/watch?v=40VSDiNZtQY>)

Have the students brainstorm a list of locations that could feasibly accommodate all students involved and a larger audience of community stakeholders. They should rate the locations and come up with the top three.

#### **Active Participation: Choosing a Location**

Teacher should model first location example for the class (see *Component 3: Appendix A and B*). Please note that the quotes given for each location have been taken from “Impact Math” Patterning and Algebra resource, (<https://ozone.scholarsportal.info/bitstream/1873/2108/1/259036.pdf>). This was done for simplicity. Instead of a “fund raising party” as suggested in the resource, we are simply making the experience more real for the students by suggesting our own summit idea, and locations. Students continue working to complete the activities for locations 2 and 3. These activities will take time to complete. It is suggested that they work in small teams (see appendices for details). After completing the activities for each location, students should be prepared to choose and justify a location based on the data they analyzed.

#### **Self-directed learning: The Final Choice**

Students will complete the final culminating activity (see *Component 3: Appendix B and C*) where they are asked to choose, and justify their choice pertaining to the best location to hold a social justice summit. Please note that while it may be best to hold the summit at a specific location, other circumstances may not allow for this (e.g. – scheduling, real cost, etc.) Therefore, it is important that you lead the students through a discussion about these circumstances, and the logistics may suggest that your own school site may actually be the best place to hold this summit. You can get into qualitative vs. quantitative reasons for this choice. The fact remains that you still had the students do the math and had them realize this to be the case.

**Assessment Opportunity:** Summative evaluation of final location choice with justification.

**Concluding the lesson:** Lead a discussion about the logistics that will go into organizing the summit. What jobs need to be completed? How will we promote the summit? How should we record it for prosperity? Who should we invite? Who will do what job(s)?

### Component 3: Appendix A

#### Social Justice Summit

**Location #1(L1):** \_\_\_\_\_

The following activities do not include the cost of buses, supply teachers, or room costs. These activities only look at a proposed number of guests for this location specifically.

These activities are only for the Location #1. \_\_\_\_\_ (L1) charges \$17.00 per guest, but has a minimum \$ 400.00 charge.

1. What does it mean by a minimum \$400.00 charge? Explain in detail with an example.
2. What would be the cost for: a) 10 guests      b) 20 guests    c) 30 guests?  
Show how you know. (Where is the math?)
3. How many guests would incur a cost of \$901.00? Show your work.
4. What would be the largest number of guests accommodated for \$ 1000.00? Show your work.
5. How many guests would need to attend to achieve an average cost of \$17.00 per guest?  
Show your work.
6. Create a table of values showing the costs for between 25 to 35 guests. Continue the chart below up to 35 guests.

# of Guests	Cost
25	
26	
27	
28	

7. Describe in words, how you would compute the costs of any given number of guests greater than 23.
8. Write an algebraic expression to represent how to calculate the cost of any given number of guests at \_\_\_\_\_ (L1). Let  $n$  represent the number of guests ( $n > 23$ ).
9. Use the expression to calculate the cost for: 45, 55, and 65 guests. Show your work.
10. Use the expression to calculate how many guests would cost: \$561, \$884, and \$1156.  
Show your work.

11. Construct a graph that will show the cost in dollars, and the number of guests. See example.
12. Use your graph to show the cost of the number of guests for the following values.  $N = 20, 25, 30, 40, 50, 60, 70$ . Join the dots using one colour. Save this graph as you will be adding data to it.
13. Use the graph to check your answers for 45, 55, and 65 guests as seen in question # 9.
14. Use the graph to estimate how many guests would cost \$561, \$884, \$1156, as seen in question # 10.

### Component 3: Appendix A continued

#### Social Justice Summit

**Location #2(L2):** \_\_\_\_\_

The following activities do not include the cost of buses, supply teachers, or room costs. These activities only look at a proposed number of guests for this location specifically.

These activities are only for the Location #2 in comparison to Location #1 in some instances.  
\_\_\_\_\_ charges a flat fee of \$90.00, plus \$ 14.00 per guest.

1. Explain what is meant by a flat fee of \$90, in detail.
2. How much would \_\_\_\_\_ (L2) charge for: 10 guests, 20 guests, 30 guests? Show your work.
3. How many guests would incur a total cost of \$566? Show your work.
4. What is the largest number of guests that can be accommodated for \$1000? Show your work.
5. How many guests would it take to achieve an average cost of \$17 per guest?
6. Create a table showing the cost for each number of guests between 25 and 35 (see Location #1 table question # 6). Compare your table to the Location #1 table. How many guests are needed to make \_\_\_\_\_ (L2) cost per guest less than Location #1?
7. Describe in words how you could calculate the cost for any given number of guests.
8. Let  $n$  represent the number of guests attending. Write an algebraic expression for the cost of  $n$  guests for \_\_\_\_\_ (L2).
9. Use your expression to calculate the costs for: 40 guests, 50 guests, and 55 guests. Show your work.
10. Use your expression to calculate how many guests would cost: \$692, \$888, and \$1042. Show your work.
11. Using a different colour, show the cost at \_\_\_\_\_ (L2) for  $n$  guests, where  $n = 20, 25, 30, 40, 50, 60, 70$ . Join the new dots on your graph using the colour you have chosen. Create a legend for your graph showing the two colours and their respective locations.
12. At what value of  $n$  do the lines cross? What do you think this means? Explain in detail.
13. Which location, Location #1, or Location #2, do you think will offer the lowest total cost (just considering the number of guests attending) for the Social Justice Summit? Explain in detail with examples from your data.

### Component 3: Appendix A continued

#### Social Justice Summit

**Location #3(L3):** \_\_\_\_\_

The following activities do not include the cost of buses, supply teachers, or room costs. These activities only look at a proposed number of guests for this location specifically.

These activities are only for Location #3 in comparison to Location #2 in some instances.  
\_\_\_\_\_ (L3) charges \$500 for the first 25 guests and \$12 for every guest over 25.

1. Explain, in words, the above quote for \_\_\_\_\_ (L3).
2. What would \_\_\_\_\_ (L3) charge if only 23 guests attended the summit? What would the charge be for 26 guests?
3. How much would the \_\_\_\_\_ (L3) charge for: 20 guests, 30 guests, and 40 guests? Show your work.
4. How many guests would incur a total cost of \$824? Show your work.
5. How many guests would it take to reduce the average cost per guest to \$17? Hint, think of the expression you used to represent the average cost at Location #1, then compare it to an expression used to represent \_\_\_\_\_ (L3) quote (they will be equal). Show your work.
6. Make a table of values showing the cost for each number of guests between 50 and 60. Use the table to check your answer to question # 4.
7. Extend the table you made for Location #2 to show the cost of that location for between 50 and 60 guests. How many guests are needed to make \_\_\_\_\_ (L3) cost per guest less than Location #2?
8. Describe, in words, how you could compute the cost for any given number of guests at the \_\_\_\_\_ (L3).
9. Write an algebraic expression, where  $n$  represents the number of guests attending the party, to represent the cost at \_\_\_\_\_ (L3).
10. Use your expression to calculate the cost for: 40 guests, 50 guests, 55 guests.
11. Use your expression to calculate how many guests would cost: \$716, \$836, and \$944.

12. Plot points in a different colour on your graph, showing the cost of  $n$  guests for the following values: 30, 35, 40, 45, 50, 55, 60. Join the dots, and label it \_\_\_\_\_ (L3). At what point or value of  $n$  do Location #2 and \_\_\_\_\_ (L3) graphs cross? Describe what you think this means.
13. Given the information you have discovered so far, which location, Location #2, or Location #3, do you think will offer the lowest total cost for the fundraising party? Explain in detail.

## Component 3: Appendix B

### Social Justice Summit – Choosing the Best Location

When choosing your location, you must consider both quantitative data (i.e. – cost, bussing, advertisements, etc.) and qualitative data (i.e. – ambience, facilities, extra activities for guests, etc.). You also must include the following requirements:

- All calculations including the algebra from the quotes, bussing, supply teaching costs, advertisements, accommodations, etc.
- Table of values showing the number of guests ( $n$ ) ranging from 20 to 80 guests. This will be your comparison chart.
- Graphs including the graph you made using the 3 locations and their corresponding quotes. You may include other graphs that you made as well (think variety – broken line, scatter plots, bar, circle).
- A final expense chart that will show total costs for the summit (includes all data).
- Your choice of location and solid reasoning behind it.
- A method of presenting your information using multimedia sources.

To help you with your calculations, not all invitees will likely attend the summit. In fact, between 20 – 25% of the invitees will not attend. Consider this percentage when calculating how many people you will be inviting to the summit (i.e. – if you invite 75 people, calculate 20 – 25% of 75 to get a realistic number that actually will attend).

Partner \_\_\_\_\_

Due Date Formative: \_\_\_\_\_

Due Date Summative and presentation: \_\_\_\_\_

Component 3: Appendix B continued

## Choosing the Best Location Assessment Rubric

Criteria	Level 4 (all)	Level 3 (most)	Level 2 (some)	Level 1 (few)	Not complete (Re-do)
<b>Knowledge/Understanding</b> <ul style="list-style-type: none"> <li>- algebraic expressions/equations/linear functions</li> <li>- graphing linear functions</li> <li>- table of values</li> <li>- use of technology</li> <li>- making comparisons</li> </ul>					
<b>Thinking</b> <ul style="list-style-type: none"> <li>- planning</li> <li>- solution work</li> </ul>					
<b>Communication</b> <ul style="list-style-type: none"> <li>- concrete argument for choice of location</li> <li>- clear message with evidence</li> <li>- terminology</li> <li>- spelling, grammar, punctuation</li> </ul>					
<b>Application</b> <ul style="list-style-type: none"> <li>- creating a multimedia show to prove your location choice</li> <li>- using math in outside world situations</li> </ul>					



### Component 3: Appendix C

#### Job Description: Choosing the Best Location to Hold the Social Justice Summit

**Decide the best location for holding a social justice summit in our community, from the data you collected, using graphs and a spreadsheet.**

#### Tasks:

- Calculate the cost for each location using the quotes provided, for 20 to 80 guests.
- Organize your data for each location using a table of values. Be sure that your number of guests range from 20 to 80 guests.
- Create a multiple broken line graph showing the costs for each location.
- Describe what the graph is showing. Include an explanation of what it means when the lines cross. What are the trends in the graph? Are there points when one location becomes cheaper, or more expensive than the others based on the number of guests? If so, why, or if not, why not?
- Include at least one other type of graph created from the data. Provide an explanation of the graph, and why you included that particular type of graph. Why is this graph the best choice for showing your data?
- To help you with your calculations, not all invitees will likely attend the summit. In fact, between 20 – 25% of the invitees will not attend. Consider this percentage when calculating how many people you will be inviting to the summit (i.e. – if you invite 75 people, calculate 20 – 25% of 75 to get a realistic number that actually will attend). Include this calculation in your spreadsheet.
- Prepare an explanation for your choice for the best location. You must have solid reasoning behind your choice using the data you collected.
- Explain how math is used in the job you chose to help organize the summit and what type of math you used.

Source: Impact Math – Patterning and Algebra

### Component 3: Appendix C (continued)

#### USING A SPREADSHEET TO ASK WHAT IF?...

Now that you can express relationships using algebra, you can use a spreadsheet to create a table of values. Follow the steps below to create a table of values to compare the costs of the original quotes for various numbers of guests. Use Excel for your spreadsheets.

1. Create the spreadsheet with headings like below.

	A	B	C	D
1				
2				
3	<b>GUESTS</b>	<i>Name of location #1</i>	<i>Name of location #2</i>	<i>Name of location #3</i>

2. Enter formulas for the cost at each location by clicking in cell A4 and entering the number of guests (20). Enter the formulas in row 4 as shown.

	A	B	C	D
1				
2				
3	<b>GUESTS</b>	<i>Name of location #1</i>	<i>Name of location #2</i>	<i>Name of location #3</i>
4	=20	=17*A4	=90+14*A4	=500+12*(A4-25)

3. To extend the formulas from 20 to 80, select cell A5 and enter the formula =A4 +1. There is a way to highlight and fill, can you find it?

	A	B	C	D
1				
2				
3	<b>GUESTS</b>	<i>Name of location #1</i>	<i>Name of location #2</i>	<i>Name of location #3</i>
4	=20	=17*A4	=90+14*A4	=500+12*(A4-25)
5	=A4+1	=17*A5	=90+14*A5	=500+12*(A5-25)
6	=A5+1	=17*A6	=90+14*A6	=500+12*(A6-25)
7	=A6+1	=17*A7	=90+14*A7	=500+12*(A7-25)

4. Continue to fill in your spreadsheet up to 80 guests for the cost at each location. Now, can you modify your spreadsheet to include the cost of bussing, accommodations, supply teachers, and advertisements?
5. You may create graphs using the spreadsheet you made. Think of how the data would be best represented...which graph is the best choice? Use the chart wizard icon.

## LEARNING PLAN

### Component 4: The Summit

**Big Ideas:** Students will be able to:

- determine the math used when planning, organizing and running a summit;
- solve everyday math problems related to planning, organizing and running a summit.

### Getting Started

Continuing from “Concluding the Lesson” in Component 3, teacher and student have discussion regarding the logistics that will go into organizing the summit.

### Active Participation / Self-directed learning

Students choose one Summit organizing task: (see Component 4 Appendix A for job descriptions) Logistics, Budget, Nutrition, Marketing, or Presenter. With teacher(s) assistance students will plan, organize and implement the Summit on Social Justice.

For a guide on including a Guest Speaker please refer to the Applications of Working and Learning website: [www.awal.ca/files/BigPicture/Beg\\_Guest\\_Speaker-3-N.pdf](http://www.awal.ca/files/BigPicture/Beg_Guest_Speaker-3-N.pdf)

**Assessment Opportunity:** For each summit job, students regularly reflect on the mathematics they use when planning, organizing and implementing the summit on Social Justice.

For example, students may answer questions like:

1. List the jobs you completed this week for our Social Justice Summit.
2. Identify the math you used in the above listed jobs.

### Culminating

The Summit!

## Component 4 Appendix A

### Job Description: BUDGET

**Design and analyze budget data using Microsoft Excel and present the data in various documents.**

#### Tasks:

- Organize your budget items into a spreadsheet for all the groups to view. Your spreadsheet should be created in Microsoft Excel and should be easy for all groups to understand.
- Assign specific amounts for each group (venue, marketing, media, and hospitality) and set up accounts where you can track each transaction.
- Give a budget update weekly to the other groups.
- Perform cheque requisitions when bills need to be paid.
- Approve or negotiate group requests for funding.
- Be accountable for any money collected during the summit or from sponsors.
- Prepare a financial report to show the expenses and any revenues generated from the summit.
- Explain how math is used in your job and what type of math your used.

**CHEQUE REQUISITION**

To: \_\_\_\_\_ Date: \_\_\_\_\_  
From Group: \_\_\_\_\_

Please issue a cheque and charge the expenditure to the following account.

Payable to: \_\_\_\_\_

Address: \_\_\_\_\_

Date cheque required: \_\_\_\_\_

Cheque amount: \_\_\_\_\_

Purpose of payment \_\_\_\_\_

(If applicable) GST # \_\_\_\_\_

Account to be debited: \_\_\_\_\_

Requested by: \_\_\_\_\_

**FUNDING REQUEST**

To: \_\_\_\_\_ From: \_\_\_\_\_

Amount requested: \_\_\_\_\_

Reason: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Component 4 Appendix A (continued)

### Job Description: LOGISTICS

**Design a schedule for the summit events and arrange for equipment during each event.**

#### Tasks:

- Create a schedule for the day of the summit including student presentations, guest speaker, breaks, and any other events.
  - Ensure equal time allotment for each presentation
  - Ensure guest speaker allotted for no more than 20% of the daily schedule
  - Ensure refreshment breaks are allotted for no more than 20% of the daily schedule
  - Calculate the total time for student presentations, total time for guest speaker and total time for refreshment breaks. Represent these as a percent, fraction and decimal.
  - Select the best representation (percent, fraction or decimal) and show that the whole day has been planned.
- Plan the location of presentation rooms and refreshment areas
  - Create a scale map indicating presentation rooms and refreshment areas.
  - Create signs to direct audience to events.
- Arrange for sufficient equipment for presentations
  - Calculate the total area available for seating in each room.
  - Calculate the maximum number of chairs suitable in each room related to the total area of the room
  - Arrange for computer, projector, microphone as needed

## Component 4 Appendix A (continued)

### Job Description: MARKETING

**Design and analyze marketing data using Microsoft Excel and present the data in various documents.**

#### Tasks:

- Research a variety of marketing avenues to promote our Social Justice Summit
- Assign lead roles for specific marketing avenues(printed, typed, spoken) to act as primary liaison for each group
- Research cost efficiency of each marketing avenue and how they compare to each other
- Identify effectiveness of each marketing avenue in terms of “how many people will the message reach?”, “how often will this message reach the people?”, “is the message reaching the appropriate population(s)?”
- Design a format to measure and collect marketing efficiency/effectiveness
- Use (above) research to select specific marketing avenues that we will use to promote the Summit
- Create and implement marketing campaign with each of the selected
- Measure and collect marketing efficiency/effectiveness
- Organize data using Microsoft Excel into tables and graphs that aid in visualizing the effectiveness or ineffectiveness of marketing campaign
- Analyze data to assess the value of each of the marketing avenues
- Explain how math is used in your job and what type of math your used.

## Component 4 Appendix A (continued)

### Job Description: NUTRITION

**Investigate and analyze different options to provide nutrition for summit participants and determine a suitable algebraic equation.**

#### Tasks:

- Investigate the cost from each option
- Determine a suitable (linear) algebraic equation
- Calculate the cost for 50, 100, 150, 200, 250 students for the first 3 choices (using a chart).
- Calculate the cost per person
- Determine the cost a student “might” spend based on option 4. How does this compare to the other options on a per student basis
- Graph the data.
- Extrapolate the data to show the costs for 500 people – we forgot parents, community members, and media from all over Eastern Ontario will be present
- Analyze the data and report on which option is most suitable, and whether or not a full meal (lunch) should be served.

#### Choices to supply the food / refreshments:

<b>Option #1</b>	<b>Option #2</b>	<b>Option #3</b>	<b>Option #4</b>
<b>Hospitality Program at local High School</b>	<b>Local Caterer</b>	<b>Do – it – Ourselves</b>	<b>Fundraiser style (e. g. M &amp; M burgers)</b>
- Cost for drinks - Cost to supply a full lunch	- Cost to supply a full lunch for 200 students	- Cost to supply food - Cost for any rentals (BBQ, coolers, etc.) - Cost for servers?	- contact M&M, or parents, or other - students pay \$ for lunch - proceeds to charity?