



Workplace Mathematics 11: 3D Unit
Educator: Carol Bob
May 17, 2023

Photo: Elizabeth Larsen

My Inspiration

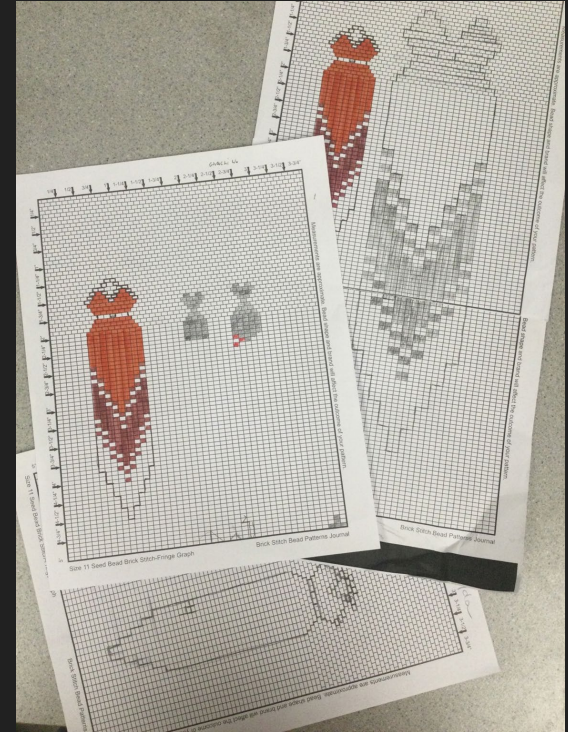
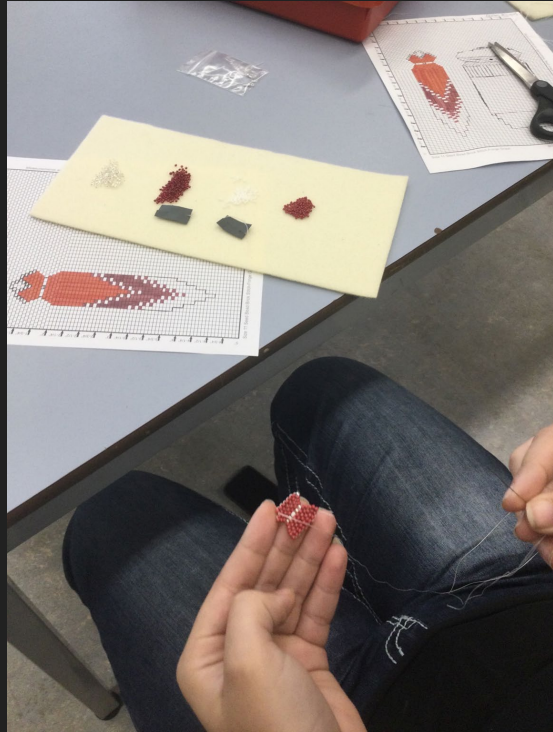


Photo: Elizabeth Larsen

Survey prior to unit and letter home

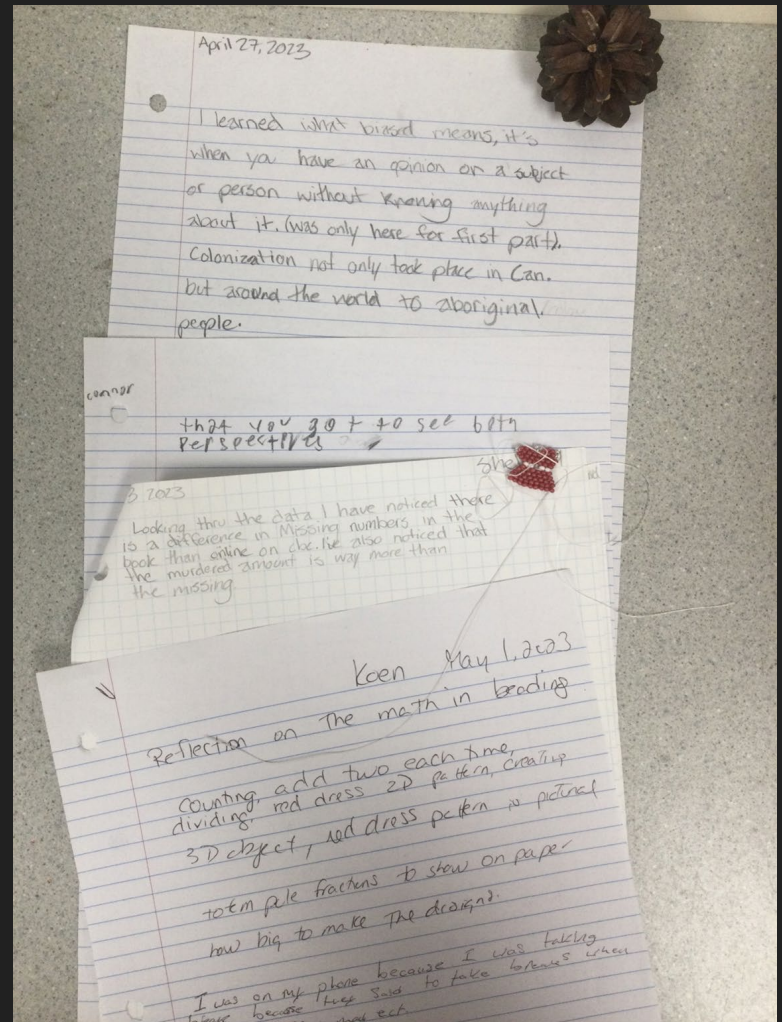
- Displayed the BC MOE curriculum and describe the big ideas, curricular outcomes, and content in lay words, gave the kids a survey on how they wanted to approach the 3D unit, including assessment , guiding question, and with the reminder their voice is important
- Letter home to parents/guardians explaining the content we would be covering

What I was trying to do...



To get the kids to reflect on what they were noticing.

I prompted for verbal reflections during one-on-one check-ins



What I was trying to do

Perspective? Bias?

Figure 3 - probable cause for missing Aboriginal females, as of Nov. 2013

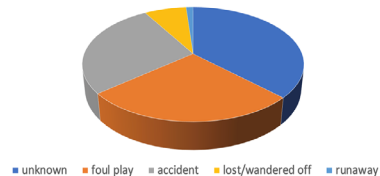
	#	%
unknown	61	37
foul play	44	27
accident	45	27
lost/wandered off	12	7
runaway	2	1
total	164	100

RCMP Reported Incidents of MMIWG Across Canada

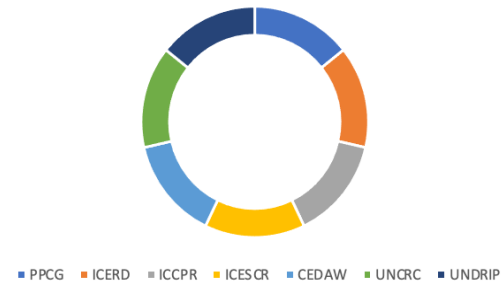


Perspective? Bias?

RCMP Probable Cause for MMIWG, as of Nov. 2013



Human Rights that were Violated in Final Report MMIWG



What I am learning



Photo: Elizabeth Larsen

Strengths	Curricular Outcome	Challenges
- recognized when frustrated - I tried again	I understand how experiential learning facilitates deeper understanding	- beading
I tried to scale it down	I can create a scaled up/down 2D diagram	- drawing
being patient and polite	I can construct a 3D objects from a 2D pattern	- threading the needle through the bead
- I give things a try - I knew it was messy	I do not give up when facing a challenge	- confused in how it relates
	I can represent mathematical ideas in concrete and pictorial forms (scaled up/down red dress pattern and bead to the best of my ability a red dress)	
offering perspectives / bases - what I saw, understood	I took risks in offering mathematical ideas regarding MIMWG	- how ideas are connect
	I can connect mathematical ideas with MIMWG data, 2D scaled diagram, 3D beaded red dress.	
- very patient in learning	I practiced learning takes time and patience	

$$\frac{30}{32}$$

$$\frac{31}{32}$$

$$\frac{21}{32}$$

$$\frac{24}{32}$$

$$\frac{29}{32}$$

- good at being patient	I practiced learning takes time and patience	
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$$\frac{28}{32}$$

What is next



Thank-you!



MMIWG

April 24, 2023

Workplace Math 11

Discussion to understand why MMIWG is an issue

How are prejudice and bias created?

- How do we overcome prejudice and bias?
- Brainstorm to yourself
- In two minutes, you will share your ideas with table mate
- In five minutes, one of you will share your ideas with class

Is mathematics divorced from the real world?

When are we ever going to use this?

My bias is that we need to rethink the math classroom as a tool for understanding and changing the world.

Your voice is important!

Math like life is...

- Inferring, hypothesizing, analyzing, and drawing conclusions

“it must be spring”

“the melted snow tells me it is spring”

“monitoring weather temperature, bear prints in the mud tell me it is spring”

It is spring because the bears are out, the river is thawing, the snow has melted, and the temperature remains above zero during the day”

Your task

Preview the RCMP Missing and Murdered Aboriginal Women: A National Operational Overview

What do you notice? What do you wonder?

What do you infer? Hypothesize? Analyze and conclude about the report?

Be prepared to share your noticing and wondering.

Resources

- BC Gov. [Government of B.C. Reflection on Ending Violence Against Indigenous Women and Girls: A Statement on the Anniversary of the Release of the Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls.](#)
- Cain et al. (2018). [Social Justice and Math \(utoronto.ca\)](#)
- GC. Background on the inquiry. [Background on the inquiry \(rcaanc-cirnac.gc.ca\)](#)
- Native Women's Association of Canada. [2022 Safe Passage Map Platform \(arcgis.com\)](#)
- Olson (2021). [Activists, influencers raise alarm after MMIWG content disappears from Instagram on Red Dress Day | Globalnews.ca](#)
- RCMP [Missing and Murdered Aboriginal Women: A National Operational Overview | Royal Canadian Mounted Police \(rcmp-grc.gc.ca\)](#)



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Date: April 18, 2023

Re: MMIWG lessons

Dear Parents and Guardians,

I am writing to inform you that your child will participate in an approximate five day integrated lesson on Missing and Murdered Indigenous Women and Girls (MMIWG). From a mathematics perspective we will use a social justice lens to examine MMIWG; by the end of the lessons, your child will be able to:

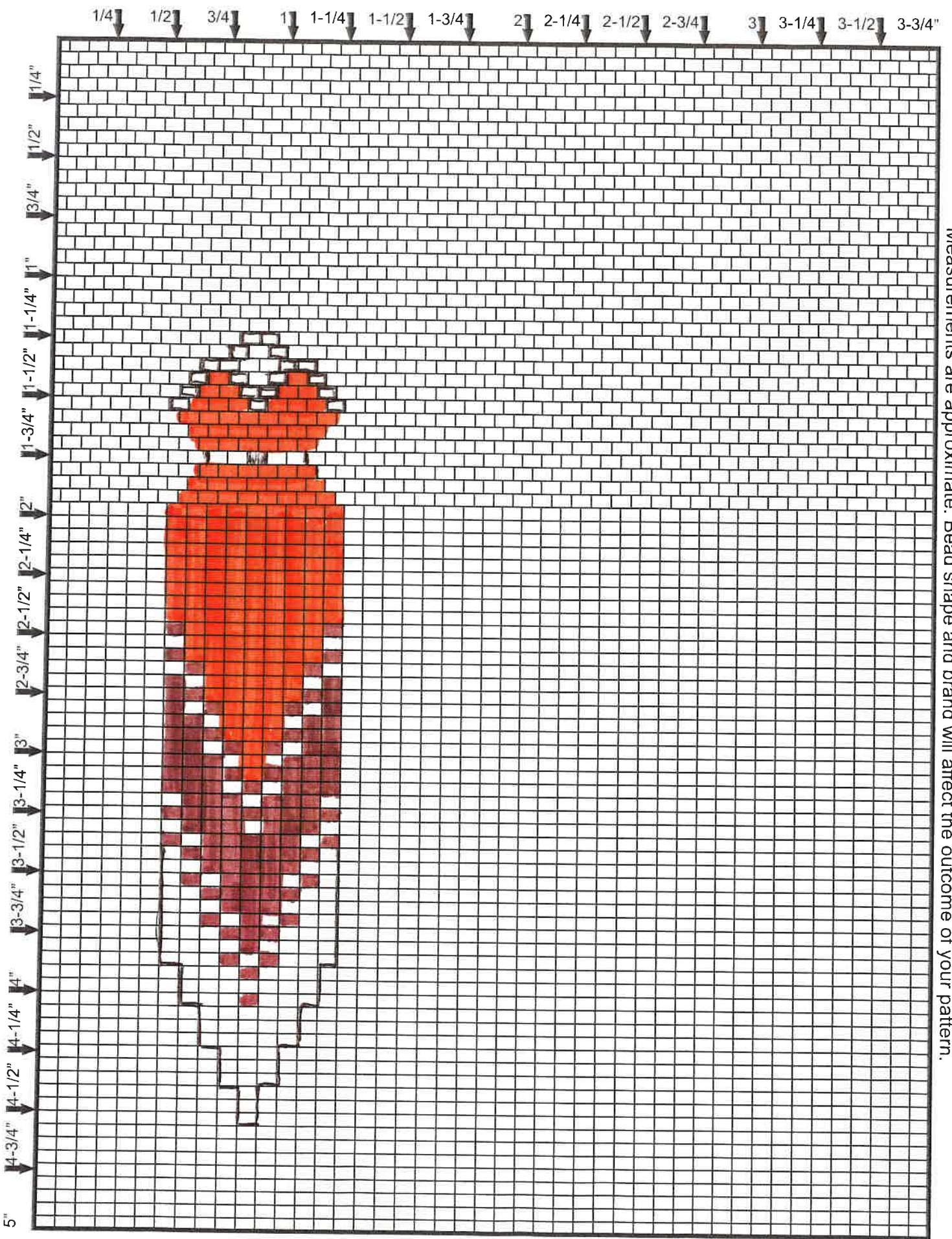
- Understand how experiential learning facilitates deeper understanding
- Create a 3D object from a 2D pattern
- Take risks in offering mathematical ideas regarding MMIWG
- Connect mathematical ideas with MMIWG data, 2D scaled diagrams, 3D beaded red dress

The materials used from this curriculum package, and the videos associated are appropriate for students at this grade/maturity level.

The teaching of this unit will begin on Monday, April 24, 2023. If you have any questions or concerns about this week or wish to review the curriculum and resources used, please contact carol.bob@cmsd.bc.ca or school principal at 250-842-5214.

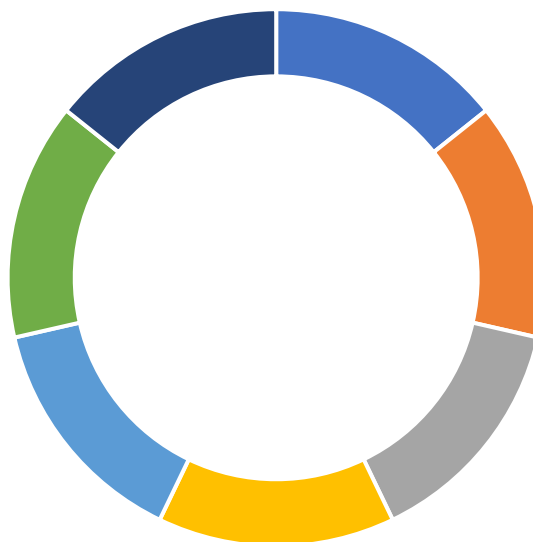
Thank you,

Carol Bob
Sta'os ta'on member of Wilp Luus
B.Sc., B.Ed., Diploma Special Ed., M.Ed.



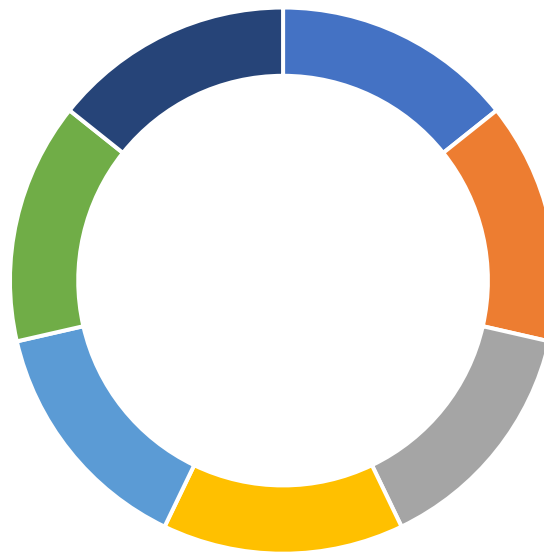
Measurements are approximate. Bead shape and brand will affect the outcome of your pattern.

What do you see? What do you wonder?



Source: https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Executive_Summary.pdf

What do you see? What do you wonder?



■ PPCG ■ ICERD ■ ICCPR ■ ICESCR ■ CEDAW ■ UNCRC ■ UNDRIP

Source: https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Executive_Summary.pdf

What do you see? What do you wonder?

Human Rights that were Violated in Final Report MMIWG



■ PPCG ■ ICERD ■ ICCPR ■ ICESCR ■ CEDAW ■ UNCRC ■ UNDRIP

Source: https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Executive_Summary.pdf

Human Rights Violated MMIWG Final Report

- International Convention on the Prevention and Punishment of the Crime of Genocide (PPCG)
- International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)
- International Covenant on Civil and Political Rights (ICCPR)
- International Convention on Economic, Social, and Cultural Rights (ICESCR)
- Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)
- United Nation Convention on the Rights of a Child(UNCRC)
- United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)

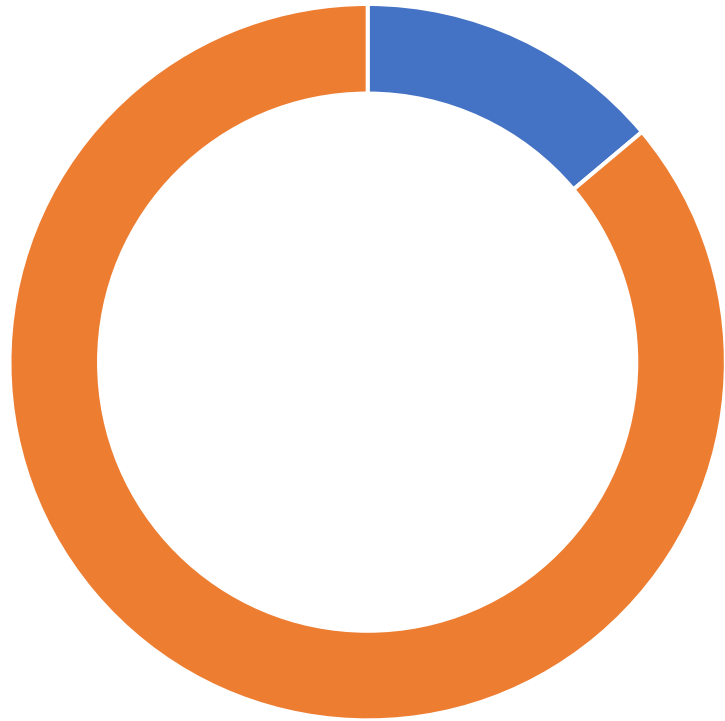
Perspectives

Whose perspective is represented in the Final Report MMIWG?

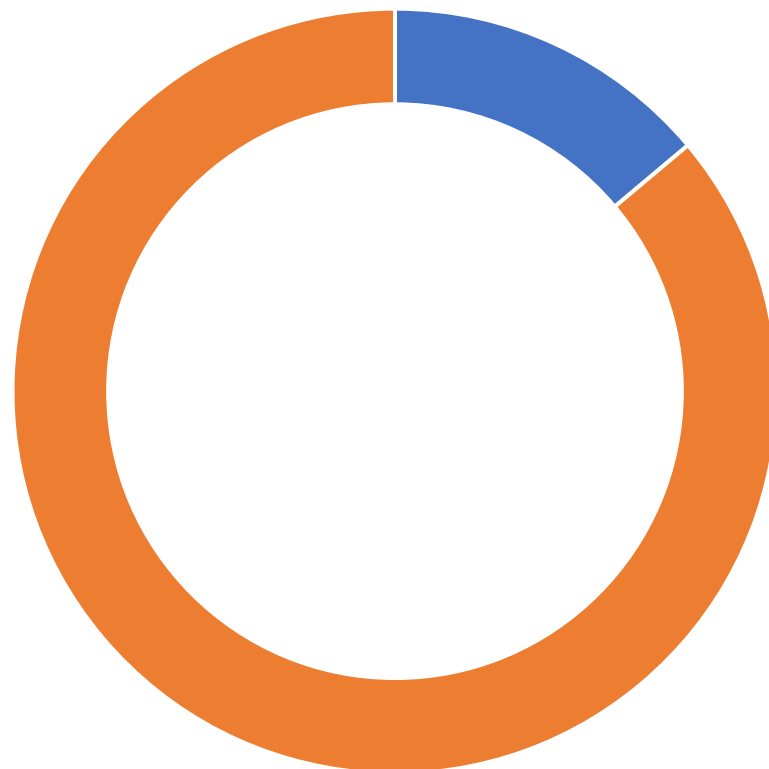
Why is it important to consider whose perspective created the graph?

Collected the data? Type of graph displaying information.

What do you notice? What do you wonder?



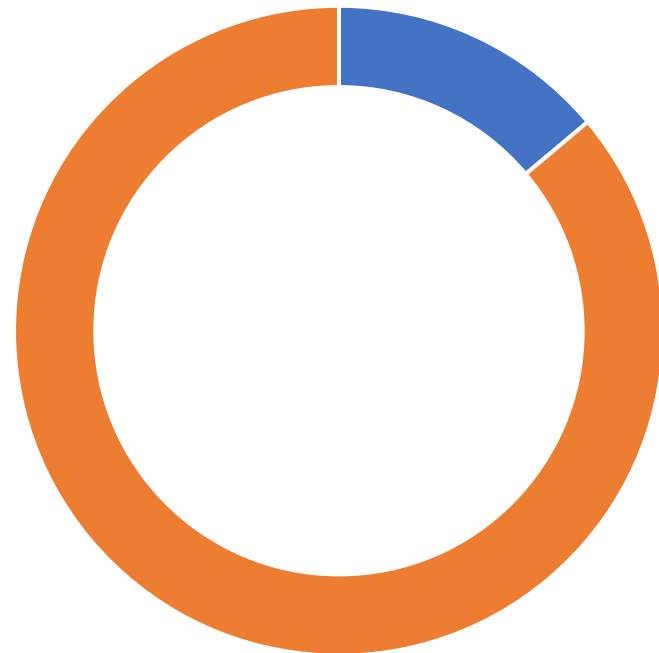
What do you notice? What do you wonder?



■ Missing ■ Homicide victims

What do you notice? What do you wonder?

RCMP Reported Incidents of MMIWG Across Canada



■ Missing ■ Homicide victims

Bias

- What biases were represented in the graphs?
- Why is it important to know the background on social justice issues like MMIWG before interpreting graphs, data?
- Is learning about MMIWG only in humanities class a bias? Why/why not?

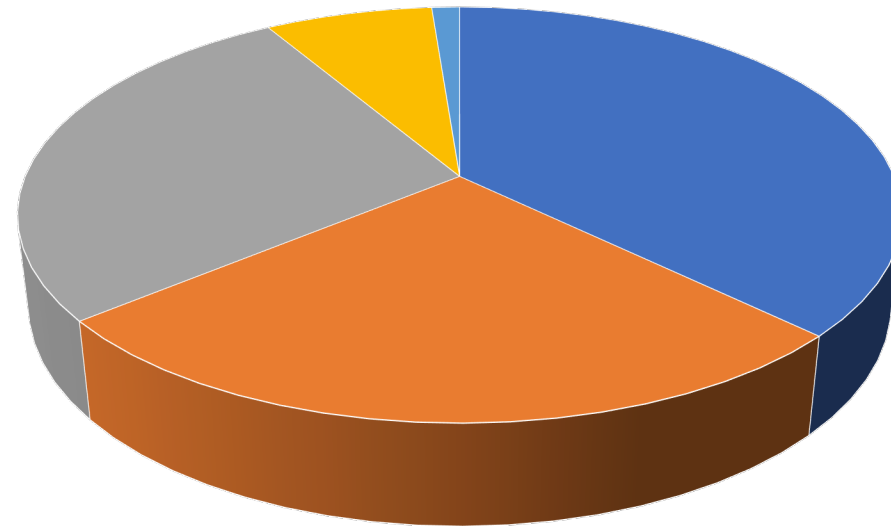
Perspective? Bias?

Figure 1-probable cause for missing Aboriginal females, as of Nov. 2013

	#	%
unknown	61	37
foul play	44	27
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Perspective? Bias?

RCMP Probable Cause for MMIWG, as of Nov.
2013



■ unknown ■ foul play ■ accident ■ lost/wandered off ■ runaway

Review of MMIWG

- [We are more than murdered and missing](#). Tamara Bernard.
- [3 things you must know about the MMIWG report](#). Pam Palmatar.
- Racism [Lament for confederation Chief Dan George 1967](#)
- Racism, discrimination video [Shit Canadians say to Aboriginal Women](#).
- Indigenous influencers: [Michelle Chubb](#) (Cree); activists, [influencers raise alarm after MMIWG content disappears](#); [home to me](#) or our own HSS video soon to be released
- Know the facts, ask questions, use your voice, you are the voice of tomorrow

Your task

- Create a graph using data from the RCMP report
- Why did you choose this type of graph?
- What bias is present in your graph?
- Go to Unresolved. Case closed or murder.
<https://www.cbc.ca/missingandmurdered/>
 - Use all filters for the data case explorer. Describe what you notice. What you wonder? Are there perspectives missing? What bias is present in the interactive graph?
- Explain in complete sentences why knowing the background on MMIWG is important before analyzing data and creating graphs
- Due Thursday, May 4, 2023

Workplace Mathematics 11 Self-assessment 3D unit

Name _____

Strengths	Curricular Outcome	Challenges
	I understand how experiential learning facilitates deeper understanding	
	I can create a scaled up/down 2D diagram	
	I can construct a 3D objects from a 2D pattern	
	I do not give up when facing a challenge	
	I can represent mathematical ideas in concrete and pictorial forms (scaled up/down red dress pattern and bead to the best of my ability a red dress)	
	I took risks in offering mathematical ideas regarding MMIWG	
	I can connect mathematical ideas with MMIWG data, 2D scaled diagram, 3D beaded red dress	
	I practiced learning takes time and patience	

Workplace Mathematics 11

For the unit on 2D and 3D objects the following ideas are expected to be answered:

Big idea: 3D objects are often represented and described in 2D space

Guiding Questions:

1. Why is it important to represent 3D objects on a 2D plane?
2. Where are the representations of 3D objects used outside the classroom?
3. Why is accuracy of measurement important when looking at scale diagrams?
4. Can all 3D objects be described in a 2D representation?
5. What can we notice about angles in scale diagrams?

Content goal:

- a. I know how to create and interpret diagrams
- b. I know how to draw and construct 3D objects

Your voice is important!

From the above ideas, tell me what you expect/want to learn. What idea is most important to you and why?

This unit will focus on Gitxsan and other ways of doing/learning. Meaning you will have a choice to create a:

- 2D pattern and weave it into a 3D object
- Design an image that will be scaled down to fit a silver bracelet to fit you/your mother's arm, and scale the image up to fit onto 3 foot by 2 foot bent box
- Take a recipe for a feast soup; half it to serve your immediate family or double it to feed your father clan's table at the feast hall
- Other (explain)

Please number the above in order of preference with 1 being the most interested or most likely the project you will make.

How should your project be marked, no it is not always the teachers job. Please use your voice to advocate for how you want to be marked.