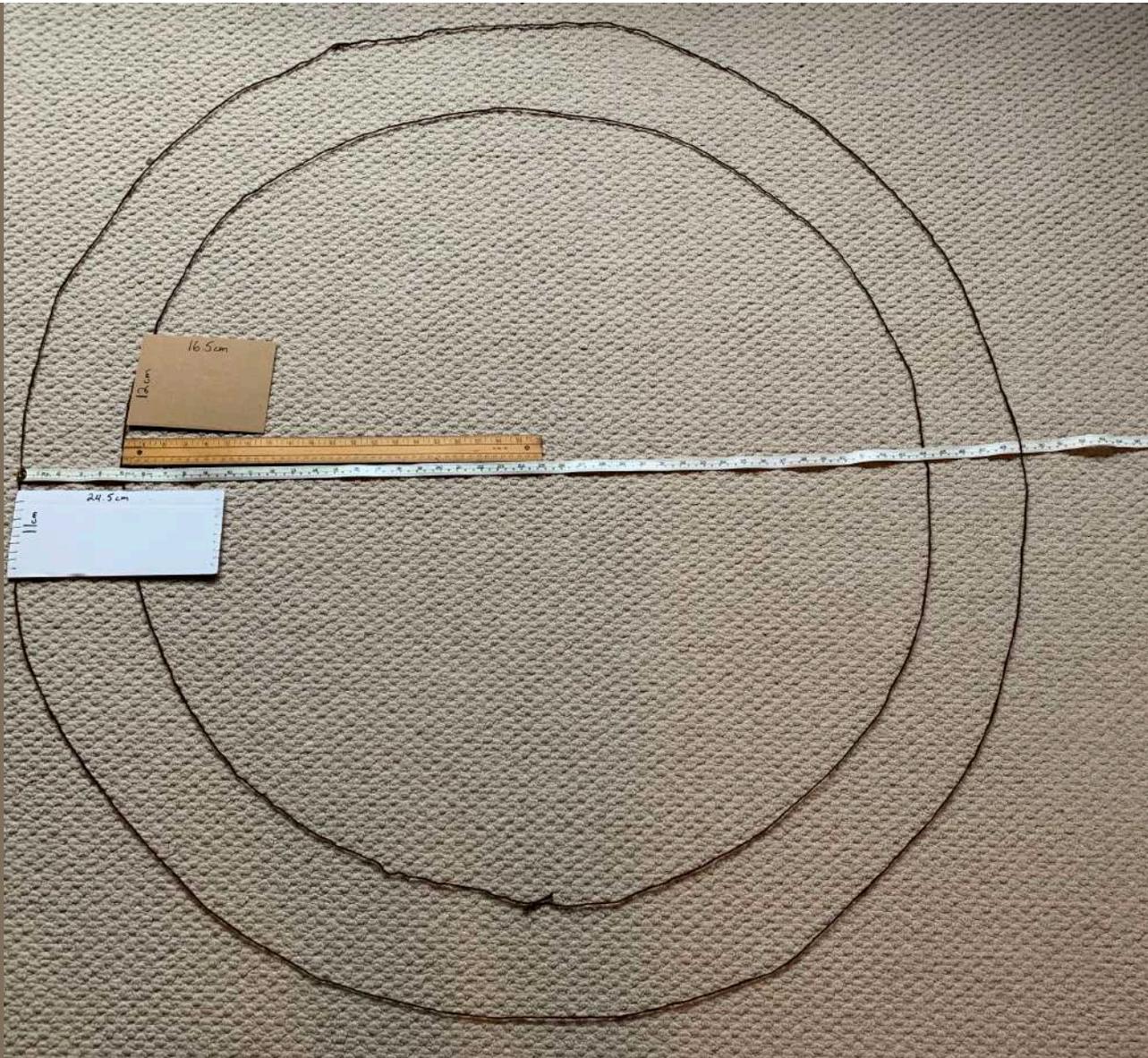


Coast Salish Weaving, Coding & Numeracy

Learning as a White
Educator on Indigenous
Territory

Jess Kyle Numeracy Helping Teacher
(Surrey SD#36)
Email: kyle_j@surreyschools.ca
Twitter: @jesannwa
Website: <https://mathingaround.com/>



I would like to acknowledge and thank my teacher and colleague Nadine McSpadden, who continues to support my learning about incorporating Indigenous knowledge and perspectives in respectful ways and who invited me to participate in this project. I so appreciate her patience and encouragement. I would like to thank, also, the Coast Salish Artists and Knowledge Keepers, whose work and stories inspire my own journey and those who gave their work and time to this project in particular. I acknowledge and am so grateful for the sharing of the land that inspires me, specifically the Kwantlen and the Katzie on whose unceded territories I live and work.



I used to think that...

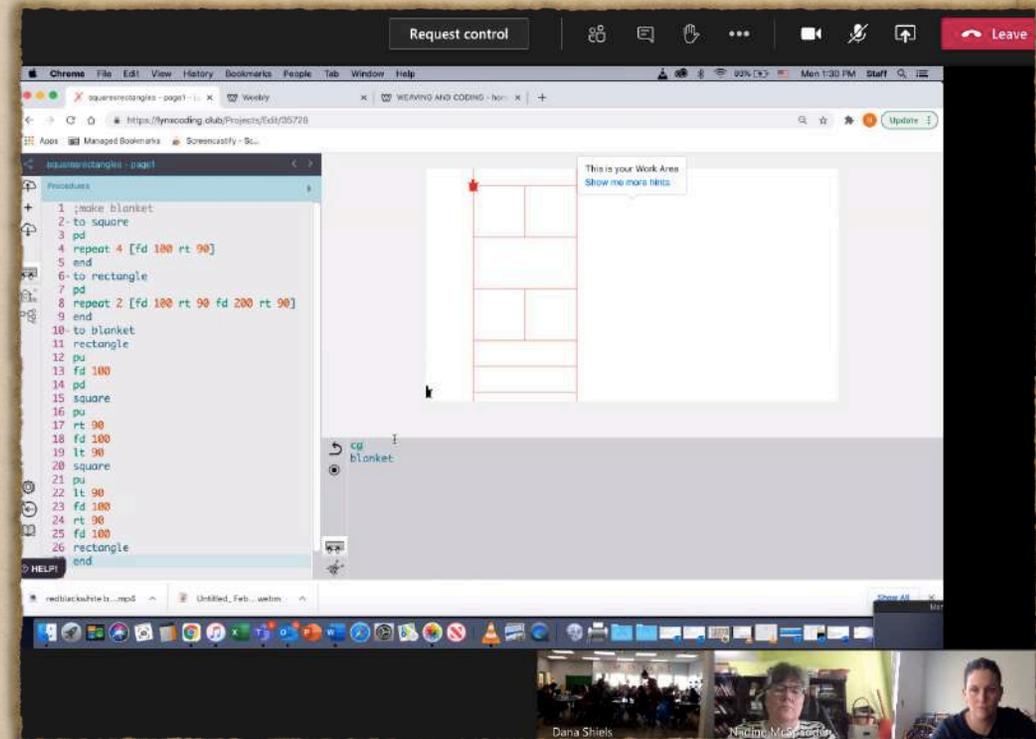
- ◆ Teaching coding in elementary was not valuable.
- ◆ Elementary kids couldn't handle “real” coding.
- ◆ Indigenous Math only connected to “basic” primary curriculum Math (shapes, simple patterns, counting).
- ◆ I can't engage students in rich experiences involving indigenous perspectives because I DON'T HAVE TIME/ACCESS TO LEARN ALL THE PROTOCOLS AND DEVELOP ALL THE CONNECTIONS (This is a common feeling for non-indigenous educators).



This Photo by Unknown Author is licensed under [CC BY-SA](#)

Now I am learning that...

- ◆ Coding can build connections between subjects and concepts.
- ◆ Kids can do anything given patience and time (They just have a low tolerance for disconnection.)
- ◆ If I can't connect deeply, I haven't learned enough yet.
- ◆ Just because I am the teacher, doesn't mean I can't also be one of the learners. My students have knowledge too. I am allowed to invite them to learn WITH me.
- ◆ Integrating Indigenous learning is NOT just about artifacts and traditional/proprietary knowledge, it is also about HOW we teach using the First Peoples Principles of Learning.



FIRST PEOPLES

PRINCIPLES OF LEARNING

Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.

Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).

Learning involves recognizing the consequences of one's actions.

Learning involves generational roles and responsibilities.

Learning recognizes the role of indigenous knowledge.

Learning is embedded in memory, history, and story.

Learning involves patience and time.

Learning requires exploration of one's identity.

Learning involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations.



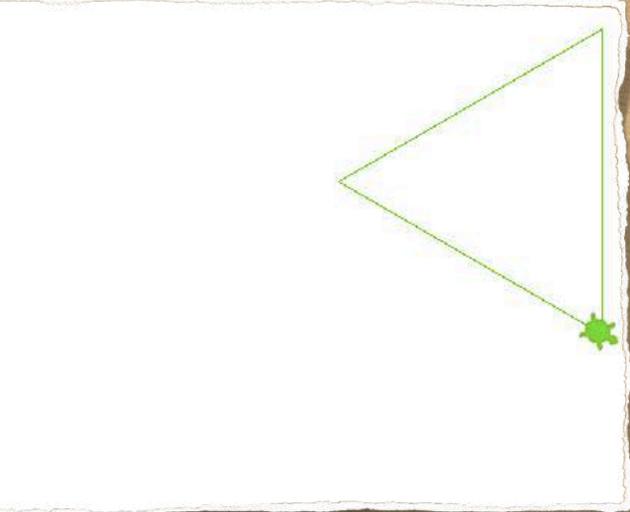
For First Peoples classroom resources visit: www.fnesc.ca



```

Triangles and Code - page1
< >
Procedures
1 ;These 2 codes draw the same equilateral triangle.
   How are the codes related? How does the code
   reflect what you know about triangles?
2 ▾ to equilateral
3 ;step by step code
4 pendown
5 fd 200
6 lt 120
7 fd 200
8 lt 120
9 fd 200
10 end
11 ▾ to equilateral2
12 ;multiplicative code
13 pd
14 repeat 3 [fd 200 wait 5 lt 120]
15 end

```



[https://www.nelson.com/
learningonline/pl.html](https://www.nelson.com/learningonline/pl.html)

Culturally Responsive Math Webinar Series

Nelson's Culturally Responsive Math webinar series brings together many educational and community leaders in Indigenous Education and provides you with the opportunity to discover Western mathematics in the heart of Indigenous culture. Webinars are hosted by Dr. Ruth Beatty, Associate Professor, Faculty of Education at Lakehead University and Danielle Blair. These webinars help participants understand that "ensuring math instruction is culturally responsive requires communication, cultural and mathematical content, and learning from Indigenous pedagogy. All of this is founded upon the building of strong relationships." (Dr. Ruth Beatty)



SESSION 1
CULTURALLY
RESPONSIVE MATH

Hairbone Pipe Bracelets
On Demand Now



SESSION 2
CULTURALLY
RESPONSIVE MATH

Primary - Bead Looming
On Demand Now



SESSION 3
CULTURALLY
RESPONSIVE MATH

Junior - Bead Looming
On Demand Now



SESSION 4
CULTURALLY
RESPONSIVE MATH

Junior - Circular Medallions
On Demand Now



SESSION 5
CULTURALLY
RESPONSIVE MATH

Wiigwas Makak/Birch Bark Basket
On Demand Now



SESSION 6
CULTURALLY
RESPONSIVE MATH

Finger Weaving and Mathematics
On Demand Now



SESSION 7
CULTURALLY
RESPONSIVE MATH

Coding and Patterns, Part 1
On Demand Now



SESSION 8
CULTURALLY
RESPONSIVE MATH

Coding and Patterns, Part 2
On Demand Now



SESSION 9
CULTURALLY
RESPONSIVE MATH

Integrating Learning and Experiences
On Demand Now

◆ Code To Learn

◆ TakingITGlobal

◆ Lynx Coding Club

◆ Nadine McSpadden:

- COMING SOON: Coast Salish Weaving and Coding Resources Website and FNEESC ADST Lessons

◆ What computation stories/ patterns do you see in this design?

◆ How can I represent my design using numbers?

◆ How does writing the code help us understand relationships and patterns with...

- Addition and multiplication
- Commutative Property
- Odd and even numbers...?

My Learning

- ◆ WEAVING & CODING Numeracy Activity
- ◆ Weaving and Coding: Mathematical Connections (Blog)

Beyond Coding

- ◆ Taking ITGlobal w imagineNATIVE: Create To Learn

CROSS STRAND INQUIRY:

After Students have made their own small weaving sample:

- How long would it take for you to weave a blanket for your bed? How much yarn would you need? How many sheep would it take to produce the wool? How much should that blanket be worth?

Resources:

ANGLES, SHAPE RELATIONSHIPS AND PROPERTIES, PATTERN, LINE, SLOPE
WEAVING:

