

BOOKS TO BUILD ON

Teaching and Learning Ideas

Thank you for downloading this Books to Build On Teaching and Learning "Seed" for you to plant in the garden of your professional practice! We are excited for you to use it in a good way to further Indigenous Education and reconciliation for you and your students. Please take them as inspiration and adapt them to your needs. See below for some important information.



Books to Build On: Indigenous Literatures for Learning

Okí, Ába wathtech, Danit'ada, Taanishi, Hello, Welcome!

Call for new lesson plan donations

Are you interested in contributing to the lesson plan selection available on Books to Build On? Have you written a lesson plan that accompanies an existing resource, or a resource you think we should include? Or, are you interested in creating a lesson plan for one of the resources? If you answered yes to any of these questions, the Books to Build On team would love to hear from you! We

These teaching and learning ideas originate from the Books to Build On: Indigenous Literatures for Learning website. Please check out the website, as well as the Indigenous Education resources at the Werklund School of Education, for more information on working with Indigenous literatures! We would love to hear your feedback on our educational materials! Please find our contact information on the website.

<https://werklund.ucalgary.ca/teaching-learning/indigenous-literatures-learning>

Open Education Resource



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How do we engage with Indigenous literatures in teaching and learning?

By Erin Spring & Aubrey Hanson

“Starting with Story” allows us to centre Indigenous voices, knowledges, people, and experiences in our teaching and learning

Why do we believe in teaching and learning with Indigenous literatures? During our years of engagement with Indigenous knowledge systems, communities, literatures, and scholarship, we have come to know that stories are at the heart of our work. Stories embody communities and their ways of knowing, being, and doing in an appealing form—reaching the heart, not only the head. Stories are inherently relational, in that a teller and listener are drawn into relationship with each other and with the story being told. And because relationships call for mutual responsibility, storytelling as a mode of sharing knowledge draws people into reciprocal webs of connection. Stories are not just for entertainment; they are there to guide how we live our lives. Thomas King’s oft-repeated line at the end of each chapter in the Truth about Stories lecture series is an illustration of this principle. King (2003) tells the reader that the story is “yours. Do with it what you will . . . But don’t say in the years to come that you would have lived your life differently if only you had heard this story. You’ve heard it now” (p. 29). When deciding how to engage others in the work of Indigenous education, then, we believe in starting with story. We appreciate storytelling for how it respects Indigenous knowledge systems, ensures that knowledge remains rooted in context, and emphasizes the value of personal voice and collective listening. Stories are a key way into relational work in education.

Social responsibility is at the heart of our work, we are working for better futures

Teaching and learning with Indigenous literatures is part of the broader work of Indigenous Education. We believe that work in education must be socially responsible and committed to communities. Significant social impact is being created by the process of reconciliation and with Indigenous-focused teaching and learning happening across the country. We see our task as working to nourish Indigenous communities and knowledge systems, while challenging racism and colonialism. This work is also about fostering open and reciprocal relationships between Indigenous and non-Indigenous peoples. This call for social responsibility informs our collaborations in the Books to Build On project.



Unit Plan for **Small Number Counts to 100**

Written by Veselin Jungic & Mark MacLean

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Resource Guide
& Unit Plan
Teacher-Author:
Emily Rozitis

Resources used
& possible
concerns

- **Video:** Small Number Counts to 100
- Inspired by narrations from Rena Sinclair of the Siksika Nation
- **Written by:** Veselin Jungic & Mark MacLean
- **Illustrated by:** Simon Roy

Possible Concerns:

- Access to technology to play the video.

Watch the video and/or print out the story transcript here:

<https://www.sfu.ca/mathcatcher/StoriesMovies/CountsTo100.html#credits>

Author/creator
& literature
background

Written by: Veselin Jungic & Mark MacLean

Author Background:

Veselin Jungic

"Veselin is a Canadian mathematician and educator. He is devoted to bringing mathematics alive for the most varied audiences – from young to old, from rural to professional, from the most academically challenged to the most advanced students. Veselin has developed and taught the math component of the SFU Aboriginal University Preparation Program, and he also organizes and coordinates the Math Catcher Outreach Program. His goal is to encourage and support mathematical education among the aboriginal population. Veselin was awarded the 2015 3M National Teaching Fellowship. Veselin is a co-author (together with Dr. Mark MacLean, Department of Mathematics, UBC) of Small Number's stories and the producer of all Small Number animated films." (Simon Fraser University, 2022.)

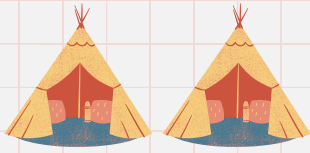
Mark MacLean

"I am involved in writing children's stories to encourage interest in mathematics amongst Indigenous children. This is a project with Veselin Jungic at SFU: Adventures of Small Number: A collection of short stories. There are some wonderful animations done from the illustrations for these books. There are versions in a number of First Nations languages, including Blackfoot, Cree, Squamish, and Halq'eméylem, Sliammon, Nisgaa, Heiltsuk, and Huu-ay-aht. There are also versions in English and French." (MacLean, 2021.)

Unit Contents

Unit Contents:

Small Number Inquiry Math Lesson
Writing Problems Math Lesson



Unit Plan for Small Number Counts to 100

Written by Veselin Jungic & Mark MacLean

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Curricular Connections for Grade 6:

Math:

"NUMBER

General Outcome Develop number sense.

Specific Outcomes

2. Solve problems involving whole numbers and decimal numbers.
i. [ME, PS, T] [ICT: C6-2.4]
3. Demonstrate an understanding of factors and multiples by:
 - a. determining multiples and factors of numbers less than 100
 - b. identifying prime and composite numbers
 - c. solving problems using multiples and factors.
i. [CN, PS, R, V]

PATTERNS AND RELATIONS (Patterns)

General Outcome Use patterns to describe the world and to solve problems.

Specific Outcomes

1. Represent and describe patterns and relationships, using graphs and tables.
i. [C, CN, ME, PS, R, V] [ICT: C6-2.3]"

Alberta Education, pp. 34-36, 2016.)

English Language Arts:

"Students will listen, speak, read, write, view and represent to comprehend and respond personally and critically to oral, print and other media texts.

2.4 Create Original Text - Structure texts:

- determine purpose and audience needs to choose forms, and organize ideas and details in oral, print and other media texts

Students will listen, speak, read, write, view and represent to manage ideas and information.

3.3 Organize, Record and Evaluate:

- Organize information: organize ideas and information using a variety of strategies and techniques, such as comparing and contrasting, and classifying and sorting according to subtopics and sequence
- Evaluate information: evaluate the appropriateness of information for a particular audience and purpose
- Recognize gaps in gathered information, and suggest additional information needed for a particular audience and purpose"

(Alberta Education, p. 44 & 58, 2000.)

Other: Social Skills- small or large group engagement, turn-taking, visual attention, listening skills (strategies may include personalized seating, whole-body listening, or Give me 5 supports.) Interpersonal language skills.

(Cunningham, Patrica M., Hall, Dorothy P., & Sigmon, Cheryl M., pp.142-143, 1999.)

All lessons have a primary focus of early numeracy and exposure and engagement with Indigenous language and culture, through written, visual, and oral storytelling. Additional focus of all lessons in this unit include the multimodal approach to numeracy. Exploring problem solving through visual and oral storytelling.

Grade Six
Curricular
Connections

(also suitable for diverse
multi-age disabilities
classrooms)

Unit Plan for
**Small Number
Counts to 100**

Written by Veselin Jungic & Mark MacLean

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Materials

Grade Six: Small Number Counts to 100 Resource Guide includes:

- Small Number inquiry Lesson Resource (2 pages)

Other Materials:

- Writing tools (paper/whiteboard, chalk, pencil, crayon, wide-grip marker, etc.)
- Calculator (optional)

*Computer/SMARTboard use

Rationale

Big Idea: This unit plan facilitates academic skill development (math dominant), such as a typically developing grade six classroom, as well as diverse, multi-age disability-focused learning environments.

Purpose: This unit plan supports classrooms with diverse skill levels, promoting engagement with number sense and mathematical skills, in individualized ways. The goal is to create meaningful and authentic mathematical interactions with Jungic & MacLean's video, to engage with math from an Indigenous lens. Mathematically speaking, this resource helps educators to teach number sense, representation, identification, and counting, with clear connections to storytelling and language.

Unit Contents

Contents:

- 2 Multidisciplinary Lessons with a focus in mathematics.
- Grade Six: Small Number Counts to 100 Resource Guide (attached as Appendix, following Unit Plan)



Lesson 1:
Small Number Inquiry

Unit Plan for
**Small Number
Counts to 100**

Written by Veselin Jungic & Mark MacLean
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Accommodations include:
Communication devices
& systems,
physical equipment to support
movement, adult facilitation of
social skills to form groups

Math Connections and Strategies:

Math:

"NUMBER

General Outcome Develop number sense.

Specific Outcomes

2. Solve problems involving whole numbers and decimal numbers.
 - [ME, PS, T] [ICT: C6-2.4]
3. Demonstrate an understanding of factors and multiples by:
 - determining multiples and factors of numbers less than 100
 - identifying prime and composite numbers
 - solving problems using multiples and factors.
 - [CN, PS, R, V]

PATTERNS AND RELATIONS (Patterns)

General Outcome Use patterns to describe the world and to solve problems.

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English Language Arts:

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(Alberta Education, p. 44 & 58, 2000.)

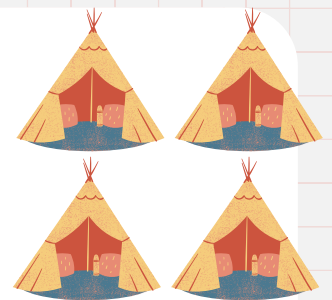
Other Skills: Social Skills- small or large group engagement, turn-taking, visual attention, listening skills (strategies may include personalized seating, whole-body listening, or Give me 5 supports.) Exposure and engagement with Indigenous languages and cultures, through written, visual, and oral storytelling - emphasis on problem-solving.

Preparation: Set up students with devices (1 device per 2 students is the ideal set up, can be done in larger groups.)

Print the resource for the lesson, Small Number Inquiry Lesson Resource (or set it up for digital display.)

Activity:

1. Pass out the resource or display it for all students (for the duration of the lesson.) Allow them to divide into small groups (2-4) and find a device.
2. Ask them to visit <https://www.sfu.ca/mathcatcher/StoriesMovies/CountsTo100.html>
3. Allow them to watch the first video in their groups. Encourage them to discuss the questions provided, and to select their own problem to present to another group, from the sidebar list of Small Number problems. Allow 20 minutes to write their presentations.
4. Ask students to pair up with another group, and verbally exchange presentations about their given problems. Allow 10 minutes for this exchange.
5. Conclude with a whole class discussion on what was learned: how did you like this approach to problem-solving? What did you like and dislike about an oral storytelling approach to math?



Lesson 2:
Writing Problems

Unit Plan for
**Small Number
Counts to 100**

Written by Veselin Jungic & Mark MacLean
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Accommodations include:
Communication Devices
& Systems,
Slant boards,
Adapted writing tools
Body Breaks
"Chunk" the Activity

Math Connections and Strategies:

Math:

"NUMBER

General Outcome Develop number sense.

Specific Outcomes

2. Solve problems involving whole numbers and decimal numbers.
 - [ME, PS, T] [ICT: C6-2.4]
3. Demonstrate an understanding of factors and multiples by:
 - determining multiples and factors of numbers less than 100
 - identifying prime and composite numbers
 - solving problems using multiples and factors.
 - [CN, PS, R, V]

PATTERNS AND RELATIONS (Patterns)

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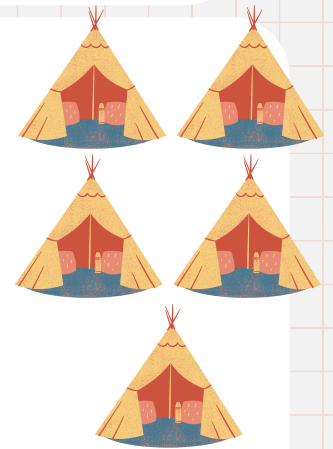
Other Skills: Social Skills- small or large group engagement, turn-taking, visual attention, listening skills (strategies may include personalized seating, whole-body listening, or Give me 5 supports.) Exposure and engagement with Indigenous languages and cultures, through written, visual, and oral storytelling - emphasis on problem-solving.

Preparation: Set up students with devices (1 device per 2 students is the ideal set up, can be done in larger groups.)

Print the resource for the lesson, Small Number Inquiry Lesson Resource (or set it up for digital display.)

Activity:

1. Ask students to revisit <https://www.sfu.ca/mathcatcher/StoriesMovies/CountsTo100.html>
2. In small groups (2-4), ask students to write their own problem, inspired by the Small Number series. Encourage them to make a visual aid (for example, draw symbols for the problem on a whiteboard, or use classroom objects to represent parts of the problem.)
3. Ask students to work on writing and creating their problem for 25-30 minutes.
4. After 30 minutes, let students present their problems to the class. Alternatively, they may present their problems in the following class.
5. Encourage students to provide feedback to their peers, including specific and positive praise.
6. Conclude with a discussion surrounding the way literacy and math work together with visual and oral storytelling in these problems and presentations. Encourage students to recognize the way problems can be solved and presented through many lenses and approaches.





GRADE SIX

Unit Plan for
**Small Number
Counts to 100**

Written by Veselin Jungic & Mark MacLean

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Supporting
Sources,
APA references:

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Simon Fraser University. (2022.) *Small number counts to 100*. Web. <https://www.sfu.ca/mathcatcher/StoriesMovies/CountsTo100.html#credits>

Simon Fraser University. (2022.) *Contact us- math catcher: Veselin Jungic*. Web. <https://www.sfu.ca/mathcatcher/contact.html>

About the
Teacher-
Author:

Emily Rozitis has a Bachelors of Arts in French, and a Bachelors of Education in Inclusive Education from the University of Calgary. She is a practicing elementary school teacher who works in a severe disabilities classroom with non-verbal students (ages 6-12.) Emily uses a variety of communication supports in her classroom to promote a differentiated and inclusive literacy-rich environment. Her multimodal communication approach to learning includes the use of digital and paper-based communication devices, American Sign Language, assistive technology, and both verbal and visual methods of communication.

Emily believes that literacy, and learning, are for everyone. This resource is designed to be used in a multiple-disabilities classroom to support pre-literacy skills for every student, at every developmental level. Lessons are easily adapted to the typical Pre-K, Kindergarten, and Grade 1 classroom.

Appendix for:

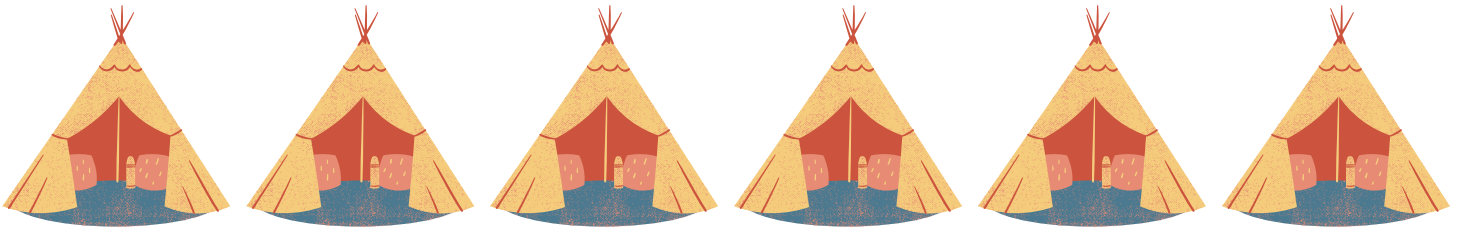
"Grade Six: Small Number Counts to 100"
Unit Plan

GRADE SIX

Resource Guide for:

Small Number Counts to 100

Written by Veselin Jungic & Mark MacLean



This Resource Guide includes:

- Small Number Inquiry Math Lesson Resource (1 page)

Small Number Inquiry:

Web page: <https://www.sfu.ca/mathcatcher/StoriesMovies/CountsTo100.html>



Watch the Small Number Counts to 100 video.

How did Small Number know that the 100th tipi is the one just south of his grandparents' tipi without actually counting them?

Select a Small Number problem from the sidebar menu. Explore the problem.

Make a presentation for your peers, showing them the given problem and explaining how to solve it (if possible.)

- Use visual supports such as a whiteboard drawing, or classroom objects, to represent parts of the problem.



'Small Number' problem name:

Problem information:

How to solve it:

Interested in learning more? Resources for additional reading:

- Archibald, J.-a. (2008). *Storywork: Educating the heart, mind, body, and spirit*. UBC Press.
- Battiste, M. (2013). *Decolonizing education: Nourishing the learning spirit*. Purich.
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