



 **SOIL CAMP** 

# TRANSDISCIPLINARY EXPERIENCES



## Historicizing The Number Line Activity



# TRANSDISCIPLINARY EXPERIENCES

## GROUNDING INTRODUCTION/OBJECTIVE/THOUGHT PROVOKING QUESTIONS

Using the tool of number line, we will learn about the the relationships Indigenous peoples have with the land, and the time in which Indigenous peoples have stewarded the land.

We will also reflect on the history of forcible displacement experienced by Indigenous communities.

## EXPERIENCE AT A GLANCE

We created this activity for Soil Campers to visualize the history of the land and the history of Indigenous Peoples. This activity also invited Soil Campers to understand their own wealth of knowledge and connect to their own relationships to the land.

Soil Campers first conceptualized a number line as a time line using the lifeline of a human. Afterwards, coloured flags were given to Soil Campers to create a life-sized time line (number line) to visualize how long Indigenous People have been on the land in contrast to colonizers and settlers. Soil Campers then hypothesized how long Indigenous Peoples have been on the land by walking and pausing along the time line.

The main goal of this activity was for Soil Campers to recognize Indigenous history and honour the history of land stewardship. We also invited Soil Campers to make new connections to the land and nurture their personal relationships with other lands they are knowledgeable about.

This activity relates anti-colonialism, history, and mathematics. It is important to recognize some aspects of this activity may be trigger inducing for people whose lives were directly impacted by settler colonialism. Our purpose is to question the neutrality of the land, listen together to the histories through an anti-colonial relationality lens, and to connect to the land as a community.

## MATERIALS

- Coloured Flags (Can be created with paper and Skewers)
- Sticky Notes
- Pens or Markers

## CONNECTION TO GROUNDING EPISTEMS

LISTENING TOGETHER TO THE VOICES OF THE SOIL AND OTHER MORE THAN HUMANS

LISTENING TOGETHER AS A COMMUNITY TOWARDS EARTH-CENTERED HEALING

LISTENING TOGETHER TO THE HISTORIES, LANGUAGES, AND STORIES (THROUGH ANTI-COLONIAL RELATIONALITY)

For more information, please visit <https://www.soilcamp.ca/vision>





# TRANSDISCIPLINARY EXPERIENCES

## LEARNING OUTCOMES/KEY CONCEPTS

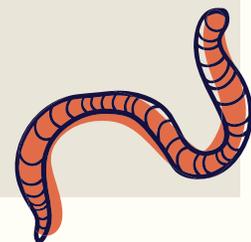
What did the Soil Campers learn from this experience?

- Conceptualizing how long Indigenous Peoples have been stewarding the land
- Indigenous connections to the land
- Personal connections to the land
- Hypothesizing and estimating when and how long Indigenous people have been on the land, and when settlers came onto the land
- Creating number lines to represent time
- Subtraction (going back in time)
- Scaling of number lines - using steps to measure distance and mark intervals
- Timeline of a seedling to tree
- Timeline of a human
- Representations of using distance as a measure of time
- Understanding the concept of passing time

## GUIDING QUESTIONS

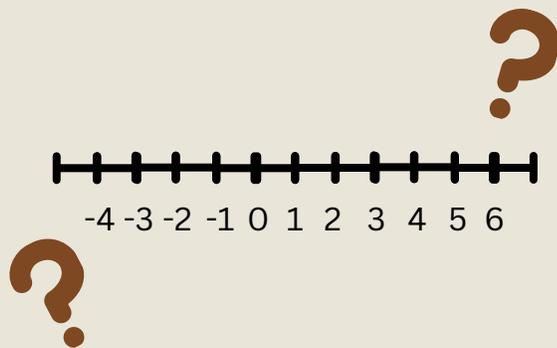
Consider asking the following questions:

- What is a number line?
- Representing the timeline of a human using a number line, should the lengths of each number line be the same?
- Are the number lines showing the same story even if the spaces/lengths are different?
- On a number line, is the distance (time) from a baby to a teen, the same as a teen to an adult?
- On the flagged number line, where would you stand to mark the time when Indigenous communities were on the land?
  - When do you think the Indigenous peoples were on the land?
- What do you think is different when we go back into time? What has changed?
- When did colonizers/settlers come onto the land?
  - What did settlers bring to the land?
  - How did this affect the land, environment, and ecosystem?
- Using the thousand year scale, where would we place the images of the timeline of a person or a tree?
  - For example, where would a person who is 90 years old and a person who is 9 years old on the thousand year timeline?
- Why is it important to know your connection to the land?
- Why is it important for people to know about your connection to the land?
- Why is it important to know whose land we are on?
- Why is it important to know who is the most connected to the land?

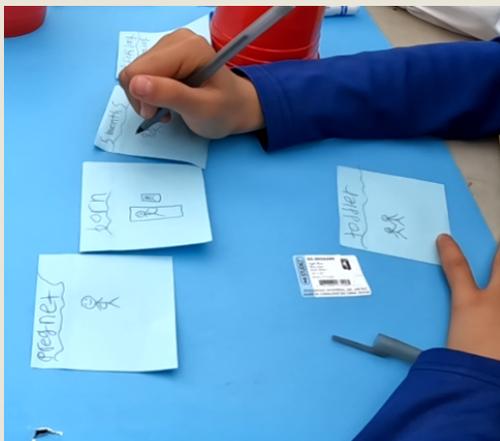


# TRANSDISCIPLINARY EXPERIENCES

## EXEMPLAR AND/OR ARTIFACTS Steps of the Activity



1) We first introduced the activity by asking the Soil Campers if they knew what a number line was and whether they could explain what it is.



3) Next, we asked the Soil Campers to create a mini number line representing the timeline of a human. Here is an image of a Soil Camper creating their timeline of a human.



2) We then showed the Soil Campers stages of a tree (seedling, sapling, small tree, big tree) and then asked the Soil Campers to order and place the different stages on a number line.



Here on the flag, 12000 means 12000 years back in time starting in 2022, which gives the year 9978 Before Common Era (BCE)

The flag with zero means we are currently at 2022 (zero years back in time)

4) We then had the Soil Campers create a life sized number line using flags that represented thousands of years back in time.

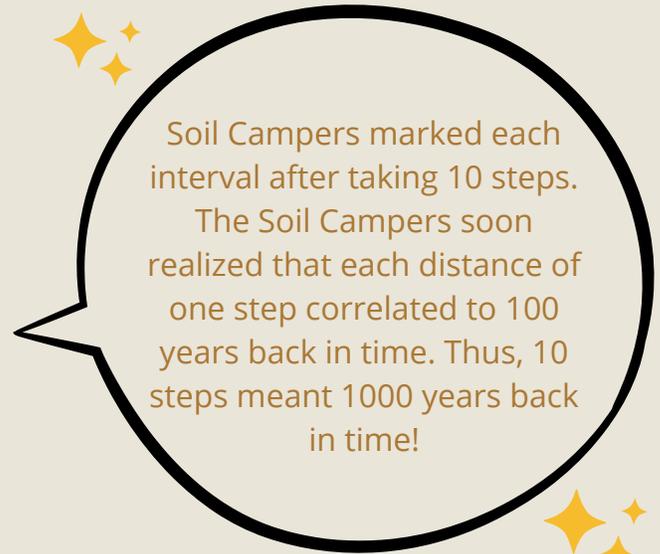


# TRANSDISCIPLINARY EXPERIENCES

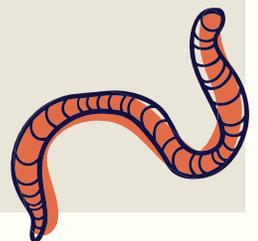
## EXEMPLAR AND/OR ARTIFACTS Steps of the Activity



5) Soil Campers created a life sized timeline using the flags to mark the thousand year intervals on the number line.



6) After the Timeline was created, Soil Campers estimated how long Indigenous Peoples have stewarded the land by positioning themselves on the number line. The Soil Campers were then informed how long the Indigenous Peoples have been on the land, and were then asked other guiding questions.



# TRANSDISCIPLINARY EXPERIENCES

## EXEMPLAR AND/OR ARTIFACTS Steps of the Activity



7) Soil Campers also tried placing their human time line (drawn on sticky notes) on the larger thousand year timeline! The Soil Campers then gained a better understanding of scaling and years through time.



## RESOURCES

For information about the Number Line Activity Conducted in 2021, visit:  
Soil Camp Website

- <https://www.soilcamp.ca/soil-camp-2021>

Our Community Report

- <https://prism.ucalgary.ca/handle/1880/113973>

## ACKNOWLEDGEMENTS

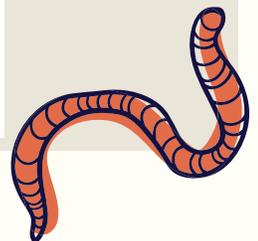
Developed by: Miwa Takeuchi, Nicole Langevin, Janice Hor, & Kori Czuy  
Template created by: Sophia Thraya



Historicizing the Number Line by  
Takeuchi, Langevin, Hor, & Czuy (2022) is  
licensed under a [Creative Commons  
Attribution-NonCommercial-ShareAlike  
4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/).



THANK YOU!



# TRANSDISCIPLINARY EXPERIENCES

## ABOUT THE HISTORY OF THE INDIGENOUS PEOPLES

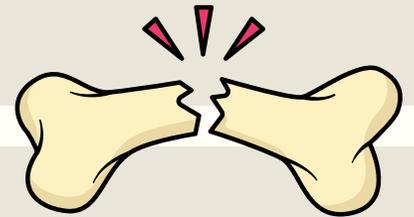
It is believed that the first peoples to traverse North America occurred 11,500 to 12,000 years ago. These people were called the “Clovis People” as archeologists discovered evidence of human activity (usage of rock tools) near Clovis, New Mexico.



In 2017, fossilized footprints were analyzed in White sands National Park. The analysis suggests that humans first came onto the land 20,000 years ago.



However, Indigenous Archeologist, Paulette Steeves, suggests that the Indigenous Peoples had first stepped foot on the land around 130,000 years ago. Mastodon bones from 130,000 years ago were discovered to have fractures created by humans who had smashed the Mastodon bones with boulders.



## RESOURCES

- For information about Dr. Paulette Steeves' Research, visit:
- <https://www.cbc.ca/radio/ideas/indigenous-archaeologist-argues-humans-may-have-arrived-here-130-000-years-ago-1.6313892>
- [https://www.youtube.com/watch?v=4g\\_oFJc7lq4](https://www.youtube.com/watch?v=4g_oFJc7lq4)



Historicizing the Number Line by Takeuchi, Langevin, Hor, & Czuy (2022) is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/).

THANK YOU!

