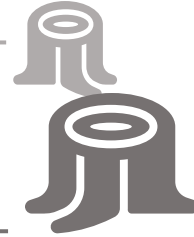


STUMP STORIES

An introduction



The idea for this guided inquiry began with the question, “What are the stories of this land?” and a further question of my own, “How might we use math to come to know these stories?”



I kept both questions in mind as I walked the woods near my home with my dog this past month. The trails wind through second growth forest: Douglas fir, hemlock, big leaf maple, and cedar compete for the sun, sometimes receiving a boost from massive old stumps that are a regular feature of the landscape (see photo). The stumps are in varying stages of decay, although most are well-preserved enough that they still bear the marks of logging practices from over a century ago.

If you allow your imagination to time-travel, you can see the sawyers standing on their springboards wielding the long bladed two-man saws that spelled an end to the trees that stood watch over this land. At the time, the destruction of the forests must have been a stunning, disorienting blow to the Indigenous people who relied on them not just as a primary resource for their communities, but also as a critical part of their identity.

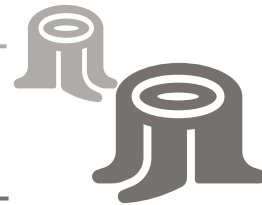
When your mind grasps the relationship between these stumps and Indigenous people, you realize a crucial truth: the story of what happened to Indigenous people is held in the land itself. These stumps know the impact of colonialism. They are not dead and buried. They hold the stories and are waiting to tell them.

How might we use math to come to know these stories? Here, then, is the beginning of our inquiry.



STUMP STORIES PART 1

Teacher Notes



Stump Stories is a guided inquiry suitable for students in primary and intermediate. By engaging in this inquiry student will exercise skills and competencies in math, science, social studies, and language arts.

Math	Science	Social Studies	Language Arts
<ul style="list-style-type: none">Counting, comparing, measuring, converting units, graphing, and estimatingUse mathematical vocabulary and language to contribute to mathematical discussionsExplain and justify mathematical ideas and decisionsProblem solving connected to place and story	<ul style="list-style-type: none">Observing living and non-living thingsQuestioningMaking predictionsCollecting and interpreting dataMaking inferences based on results	<ul style="list-style-type: none">InquireReflect on causes and consequences of actionsConstruct narratives based on perspectivesMake ethical judgements	<ul style="list-style-type: none">ListeningSpeakingWritingReadingViewing

The Dramatic Start!

Old stumps have interesting stories to tell and they have been waiting silently to tell them for a very long time. In part 1 of this inquiry, our job is to carefully observe the stumps in our neighbourhood parks and even our own school yard. What do we notice and wonder about these stumps as individuals and as a group?

Where can you find stumps?

Often, we can find old stumps in school yards and local parks. Teachers will need to locate a good spot for investigation before embarking on this inquiry. Most schools in the Tri-Cities are within walking distance to parks with plenty of old stumps. Note that this inquiry is best if you can return to a local park with your students at least twice to make observations.

How can observations be made? We recommend that students make observations through:

- Writing notes based on what they can see, touch, smell, and hear.
- Counting observable features and keeping track by using tally marks
- Measuring and estimating using both standard and non-standard units
- Taking photographs

Measuring Practice: We recommend that student practice measuring using non-standard units before beginning observations. We have included 2 different levels of practice activities in the appendix.

Observing: We recommend a cycle of observation, note-taking, and discussion. For example, students can begin by observing one stump using the sense of sight, writing notes on what they observe, and then sharing their ideas in class discussions. On the return visit, they can observe using touch. We have included a reading on using four senses to observe stumps (see appendix).

Hypothesizing: After completing observations and measurements, students should write about what they imagine has happened in the life of individual stumps. They can pick one to focus on or more depending on how much time they require for writing. They should share their hypothesis with others.



Part 1 Supporting Materials:

Video 1: *Stump Stories* ([Click here](#)). Teachers may use this video to introduce the inquiry to students. It identifies the central challenge and sets the stage for observations to come.

Reading (for teachers): *Old Stumps: An Essential Features Guide* ([Click here](#))

Reading (for teachers): *Preparation for Forest Measuring* ([Click here](#)). We highly recommend that students become both familiar and comfortable with using their bodies to measure. Depending on the age and skill-level of your students, you may choose non-standard or standard units.

Video 2: *Counting Explained* ([Click here](#)). Teachers may choose to use this video prior to measuring tasks to remind students that they may use their fancy counting skills here. It may provide a way for students to think about the conversions in the level 2 practice activity. Can you use fancy counting skills to figure out how many mm or cm in total? Absolutely!

Body Measuring Practice Tasks:

- [Click here](#) for level 1 (non-standard units)
- [Click here](#) for level 2 (standard unit conversions)

Video 2: *Body Ruler* ([Click here](#)). Teachers may use this video to illustrate the measuring techniques discussed in the reading above.

Reading (for teachers): *Observing Using Your Senses* ([Click here](#)).