



Activity

Measuring a Tree

MATERIALS

- Tape measure
- Sticks, approximately arm-length
- Pencils
- Clipboards
- Paper for calculations
- Copies of the selected measurement method

**The equipment required may vary depending on the measurement method used.*

DURATION

60 MINUTES

Activity Summary

Students work towards measuring the height of a tree without climbing it. To do this, they will have to develop a method or follow a mathematical approach proposed by the teacher. Finally, as a team, they will present how they solved the problem. The objective of this activity is to explore different mathematical concepts, such as multiplication, division, decimal numbers, and measurement to help solve the mathematical problem.

Preparation

- Consult the different measurement methods:
 - <https://www.wikihow.com/Measure-the-Height-of-a-Tree>
 - <https://www.geneve.ch/en/what-geneva/activities-exploring-trees/measuring-tree>
 - <https://learningwithoutdoors.com/learningactivities/tree-measure#:~:text=Under%20the%20legs%20peek%20method&text=If%20you%20can't%20keep,approximate%20height%20of%20the%20tree.>
- Select a method that matches your goals. (It is highly recommended to test the selected method.)
- Print a document describing the selected method.
- Obtain the necessary equipment to carry out the selected measurement method.
- Form groups of 2 or 3 students.



Steps

A. Present the problem:

Say:

This activity consists of measuring the height of a tree without having to climb it. What methods do you suggest?

In teams of 2 or 3, let students discuss and experiment with each other to identify a measurement method. Allow students to use the materials you brought for the activity.

After a few minutes, discuss the methods students have identified.

Say:

Can you explain how you will measure the tree?

What mathematical concepts will you need to use to find the answer?

What materials will be needed to solve this problem?

B. Measuring trees

Identify a tree for students to measure. Ideally, the tree should be located on flat, open ground.

Depending on the class' proposed methods and your goals, you can carry out the activity in two ways:

- Let students measure the height of a tree using the methods they have identified, and propose your measurement method to students who need it.
- Present the measurement method you have selected to your students.

RETURN
TO GROUP

Bring the groups together to compare their results and measurement methods. You can average their results and discuss the mathematical concepts behind the measurement methods used.

REINVESTMENT:

In groups, take a census of a woodland park to identify the average size of trees.