



## Tree Measurement

Grade Level: 4-6

**OVERVIEW** This activity is used to help understand vertical and horizontal measurement of large objects.

**OBJECTIVES** Students will be able to: 1. Demonstrate measurement of the trunk, crown, and height using vertical and horizontal measurement. 2. Compare results with other groups. 3. Create a graph of their findings for the trunk, crown, and height of the tree. 4. Define horizontal, vertical, and circumference.

**MATERIALS:** String, ruler, paper, pencil, meter stick, tree.

### ACTIVITIES

#### TRUNK:

1. Measure from the ground to 4 1/2 feet high on the trunk.
2. At that height, measure the trunk's circumference. Use a string around the trunk and measure the length of the string.
3. Round to the nearest inch. Record the number and label as circumference

#### CROWN:

1. Find the tree's five longest branches.
2. Put markers on the ground beneath the tip of the longest branch.
3. Find a branch that is opposite it and mark its tip on the ground.
4. Measure along the ground from first marker to the second marker.

#### HEIGHT:

1. Have your partner stand at the base of the tree.
2. Back away from the tree, holding your ruler in front of you in a vertical position. Keep your arm straight. Stop when the tree and the ruler appear to be the same size. (Close one eye to help you line it up.)
3. Turn your wrist so that the ruler looks level to the ground and is in a horizontal position. Keep your arm straight.
4. Have your partner walk to the spot that you see as the top of the ruler. Be sure the base of the ruler is kept at the base of the tree.
5. Measure how many feet he or she walked. That is the tree's height. Round to the nearest foot and record your answer as the height.

**TYING IT ALL TOGETHER:** Allow time for groups to compare answers and then re-measure the tree is needed. Usually it takes several measurements. Be sure and allow time for each person to take several measurements since they will be working with partners.

**CLASSROOM:** Have students make bar graphs using information gathered outside. Have students locate the biggest tree, smallest tree of the same species

### **SUGGESTIONS/MODIFICATIONS**

- Introduce and explain to the students the concept of measurement and its importance.
- Allow the students to measure their partner's height and to measure some other objects in the same manner.
- Provide students with the heights of different buildings, local sights, and local landmarks as a point of reference. (For instance the height of the school, the shops in the town, the office building, the Eiffel tower, the neighboring mountain ranges, etc.)

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