**The Height of a Tree**

**Purpose**

* To determine the height of a tree without climbing it!!

**Materials**

* Paper plate
* Straw
* Protractor
* Washer
* Scotch tape
* Measuring tape
* Clipboard

**Procedure**

**1) Make a paper plate clinometer**.

This is a device that relies on trigonometry.

A simple model can be made with a paper plate, a straw, some string and a weight (washer).

Cut the plate in half and glue a straw along the cut edge.

This is a sighting guide.

Exactly half way along the cut plate edge stick a piece of string with a weight on the end so that it dangles beyond the edge of the plate.



You now need to be able to find the line that is 45 o to the straw.

If there is a pattern of crenulations along the outer curved edge of the plate it may be possible to calculate this position.

Count the crinkles and locate the middle one.

A line from here to where the string is attached will be 0 o.

A position exactly half way between 0 o and the cut edge of the plate is 45 o.

Alternatively use a protractor (in fact the clinometer can be made using a protractor to replace the paper plate).

**2)** **Labeled sketch** of what you will do outside—go big or go home—big enough to show your work!

**Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Conclusion**

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