

Measurement

Learning
by
Doing

The following worksheet is a hands-on activity to supplement the following topics:

- measurement
- similar polygons
- Pythagorean theorem



Today, we are going to calculate the height of the flagpole using shadows, measurement, and ratios.

- 1) In your group, choose 1 volunteer. What is his height in centimeters? In meters?
- 2) What is the length of his shadow in centimeters? In meters?
- 3) What is the length of the flagpole shadow in meters?
- 4) Draw a picture of what is happening, and the measurements you have taken, similar to the picture above.
- 5) Use similar triangles, to estimate the height of the flagpole.
- 6) Repeat steps 1-5, using a different member of your group you is a different height than the first volunteer. Did you get the same final answer for the flagpole height? Why or why not?
- 7) Suppose we wanted to connect a string from the top of the flagpole down to the tip of the shadow of the flagpole. How many meters of string do we need?