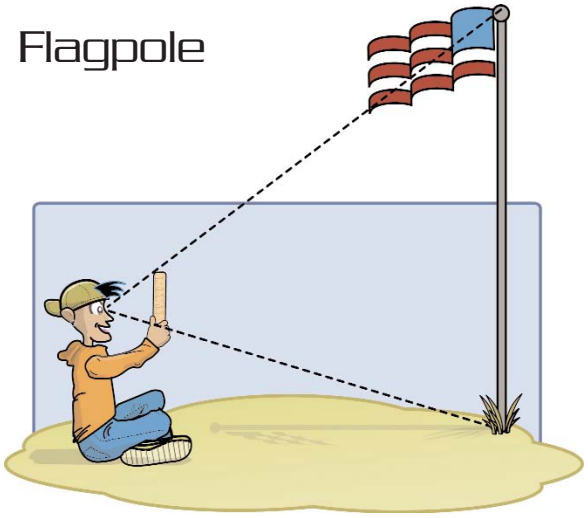
MATHPACKS
integrating math and science learning

Name _____

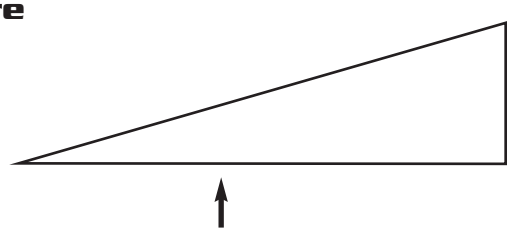
How Tall is the Flagpole



First Guess how tall you think the flagpole is.
My guess: _____cm

Next Walk a distance away from your flagpole. Sit on the ground and look up at the flagpole. Hold up a ruler with your arm stretched out. Make the flagpole disappear with all or part of your ruler. Your eye and the ruler form a triangle. Your eye and the ends of the flagpole form another triangle. These triangles are **similar triangles.**

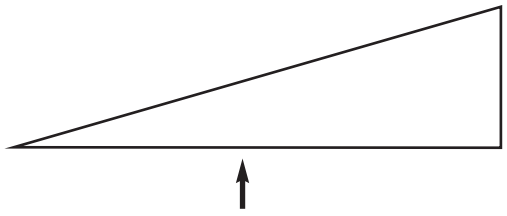
Measure



Measure ruler length covering flagpole _____cm
Hold out the ruler. Make the flagpole disappear with part of the ruler. Measure how much of the ruler you used to make the flagpole disappear.
(HINT: Watch where the zero is.)

Measure arm length (ruler to eye) _____cm
Ask someone to measure how far the ruler is from your eye.

Calculate and Estimate



Calculate and estimate flagpole height _____cm
Use the measurement you took and similar triangles.
Draw a picture to help you compare.
(HINT: How many times bigger is the distance from your eye to the flagpole than the arm length?)

Measure distance from your eye to the flagpole _____cm
As a group, measure from where you are sitting to the bottom of the flagpole.

Last How close was your guess to the flagpole height? _____cm