

Similar triangles activity

NAME:

Go outside and find two tall, preferably skinny, objects. It is best if these objects and their shadows lie on flat ground. We will use the method discussed below to find the height of these objects.

Measure the height of a person and the length of their shadow. Measure the shadow from the center of the person to its end. You can substitute a yard stick for the person.

Roughly draw and label each tall object and the person below. Draw in the right triangles that are formed by each object or person and its shadow. Because the sun hits each object at the same angle, these right triangles will be similar to each other.

Measure the lengths of the shadows of your objects. Again, try to measure from the center of the object. Label your drawings with the measurements you have taken.

Use similar triangles to determine the height of each of your tall objects. Do you think these measurements are accurate?

Extension:

Later in the evening hours, have a partner measure your shadow and height. Using this information and the height of one of the objects you found earlier, estimate the length of the shadow of that object now (in the evening).