**Right Triangle Activities: slope, tan ratio = slope, angle of elevation, Pythagorean theorem.**

**Ideas-**

1. Measure the rise over run for some stairs on your campus. Calculate the slope of the steps.
2. Have the students calculate how far out a ramp should go to meet the specifications below.
* Maximum slope for hand-propelled wheelchair ramps should be 1" of rise to every 12" of length (4.8 degree angle; 8.3% grade).
* Maximum slope for power chairs should be 1.5" rise to 12" length (7.1 degree angle; 12.5% grade).

\*\* <http://www.brainline.org/content/2008/07/wheelchair-ramp-information.html>

1. Using the specifications above (1 inch to 12 inches). Have the students calculate the angle of elevation for each type of ramp.
2. Stack some books and tape a meter stick to the stack to act as the ramp. Line another meter stick along the base and hold a meter stick as the height. As you move the height back and forth along the ramp you can read on the meter sticks the “rise” and “run” of the ramp. Graph these as ordered pairs.
3. You can use the same set-up described above to study Pythagorean theorem.

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