The Shadow Knows: Student Worksheet

Names: _____

Can you determine the height of a telephone pole or tree without climbing to the top?

Group Arrangement

Students work in groups of 3 or 4

Tools

- 1 short metric measuring tape
- Sunshine

Procedure

1. **Choose two students from your group. Measure their heights and the lengths of their shadows. Record your data in the table below.**

Student Name	Height	Length of Shadow

Formula:

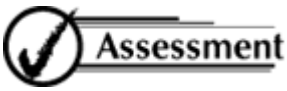
$$\frac{\text{Height of Student 1}}{\text{Length of Student 1's Shadow}} = \frac{\text{Height of Student 3}}{\text{Length of Student 3's Shadow}} \quad (x)$$

2. **Pick a nearby object and measure its shadow length. Use the previous ratio to find the height of the new object.**
    1. Tree:

    2. Basketball Hoop

    3. Building

    4. Tennis Court Fence:



Compare results from different group findings.

What applications would this activity have in the business world?

What occupations would need this skill to do their job?