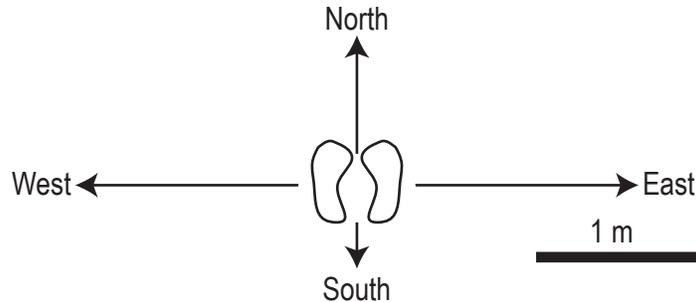


In-Class Activity #1: Apparent motion of the Sun during the day



1. Choose a sunny spot and face north (see north arrows on the ground).
2. Have your partner outline both your feet and the shadow cast by your body with chalk.
3. Use a meter stick to record the length of your shadow and record the data below.
4. Use a protractor to measure the angle between the east-west axis and your shadow and record the data below.
5. Use your data to make a rough sketch of your shadow on the diagram above. The shadow length (note meter scale bar) and angle should correspond to the data you collected. The rest is artistic expression.

Wait **at least one hour** and repeat 1-5 above to collect data for Observation Two.

Observation One

Time of Observation ____:____ AM / PM
Your Height ____ cm
Shadow length ____ cm
Shadow angle ____ degrees

Observation Two

Time of Observation ____:____ AM / PM
Your Height ____ cm
Shadow length ____ cm
Shadow angle ____ degrees

Based on your data collection, answer the following questions by circling your answers:

1. My Observation Two shadow length was [longer / shorter / about the same] than/as in Observation One.
2. My Observation Two shadow width was [wider / thinner/ about the same] than/as in Observation One.
3. Between the two observation times, my shadow moved toward the [west / east].
4. Based on my answer to #3, the Sun must have appeared to move toward the [west / east] in Rock Hill's sky.
5. Based on my observations, I would expect my shadow to be longest and thinnest at [sunrise / midday].
6. Based on my observations, I would expect my shadow to be shortest and widest at [sunrise / midday].