

# Trig Trek

You will need:

Paper/pencil

Measuring tape

Graph Paper

Camera (phone)

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You are about to embark on a trigonometric journey in your neighborhood. Before you begin, make sure to watch my video example.

1. During your journey keep an eye out for situations you might model using a trig function. Hint: Think about things that move in a circle (for example, like measuring the height of a pedal on a bike as you ride it) or that move like a pendulum (like the swings in my example). If you find something drawn that looks like a sine/cosine function, you could also use that.
2. Take a photo or video. Describe verbally or in writing what you found and what you are going to do.
3. Take measurements (max, min, and rate to find period).
4. Use the data you collected to create a graph.
5. Use the graph to determine both a sine function and a cosine function representing your scenario.
6. Put together a video or other digital explanation of what you did and your results.

\*You must find the rule of a sine function and a cosine function for your scenario. Bonus points if you find two different scenarios and find a sine function for one and a cosine function for the other.