

# MATH AT WORK ACTIVITY

## JAVELIN ANALYSIS

**Materials:** Internet access

**Number of students:** 2 or more

**Time needed:** 45 minutes

**How does the angle of a javelin throw matter? Research some data and find out!**



### 1 SEARCH FOR JAVELIN VIDEOS

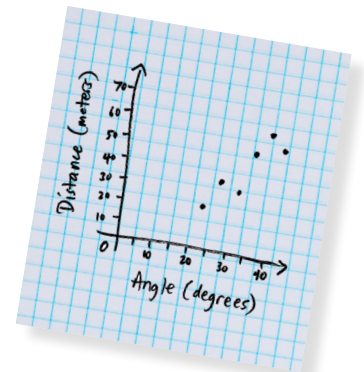
Search online for at least five videos of people throwing a javelin. For best results, try to find high-quality videos of the same person throwing.

### 2 RECORD THE RELEASE ANGLES

Freeze each video at the moment just before the thrower releases the javelin. The closer you can get to each release, the better. Take a screenshot of each throw and find the angle of the javelin relative to the ground.

### 3 ANALYZE THE DATA

Graph the angle of each throw on the horizontal axis and the distance on the vertical axis. Write your answers to the following questions, and then discuss with a classmate.



- Does your data form a proportional relationship? Why or why not?
- Compare your results with your classmates'. How were your classmates' results different?
- What is the best angle for throwing a javelin? How do you know? Justify your response using evidence from the graph.

To learn more about math in sports, visit [hmhco.com/mathatwork](http://hmhco.com/mathatwork).