

## Linear Equation Experiments

**The Wave:** Groups of students take turns doing the wave—standing up from their desk and sitting back down in quick succession. The teacher times the number of seconds for groups of 5, 8, 10, 15, and 18. Students learn the difference between the independent variable (students) and the dependent variable (total time). Students graph the results, find line of best fit, slope and equation of the line. Students use the equation to predict times for other group sizes.

This experiment can be repeated again on a later date to have students use graphing calculators to find the equation of the line through linear regression.

**Bouncing Balls:** Students work with a partner and collect data on the height of the rebound of a dropped ball. They identify the independent ( $x$  = dropped height) and dependent variable ( $y$  = rebound height). As with The Wave, students graph, find line of best fit, and the equation of the line.