



Name _____

Hour _____

In this activity, you will

- Collect data that compares the slope of the ramp and the distance a car rolls.
- Make a graph of that data. Draw a line of best fit for your data
- Write an equation that fits that data.
- Enter the data in the graphing calculator.
- Compare and combine your data with your class.

Materials Needed

- 1 tape measure
- 1 toy car
- 1 hot wheel ramps
- 4 student textbooks
- Masking tape

Procedure

Collecting Data

- 1) Using 1 of your math textbooks set up the ramp. Lay the tape measure (centimeter side up) so that the zero mark is at the edge of your ramp. Tape it down using masking tape.
- 2) Measure the rise and the run of your ramp to the nearest tenth of a centimeter. Record this on the data sheet.
- 3) Place the car at the top of the ramp so that the back of the car is on the edge of the ramp. Let the car roll down the ramp. Measure the distance the car rolls to the nearest tenth of a centimeter. If your car “swerves” to the left or right, retry that distance. If your car gets stuck on the tape measure, retry that distance again. Record this on the data sheet.
- 4) Repeat this process 5 more times changing the slope of the ramp. You can adjust the slope by adding textbooks or moving your textbook back or forth.

Making the Graph

- 1) Using the graph paper on the student worksheet, label the axis and mark your intervals.
- 2) Plot the data points you collected on the graph.
- 3) Draw a line of best fit. This is a line that goes through the “middle” of the data.

Entering Data into Calculator

- 1) Have students log onto Navnet.
- 2) Enter your data into the graphing calculator
- 3) Screen shot the students calculators. Using either a smart board or white board, show them how to make a line of best fit using a yardstick and whiteboard markers.
- 4) Have them do this on their graphs.

Writing the Equation

- 1) Find two points that are ON the line of best fit.
- 2) Find the slope of those 2 points.
- 3) Find the y-intercept of the line by looking at the graph.
- 4) Using the slope-intercept form of a line, write the equation of the line of best Fit on your graph.
- 5) Enter your equation into the graphing calculators and compare the students using screen shot.

Extension

Have a series of scatter plots set up in the activity center and have students write an equation for the line of best fit.

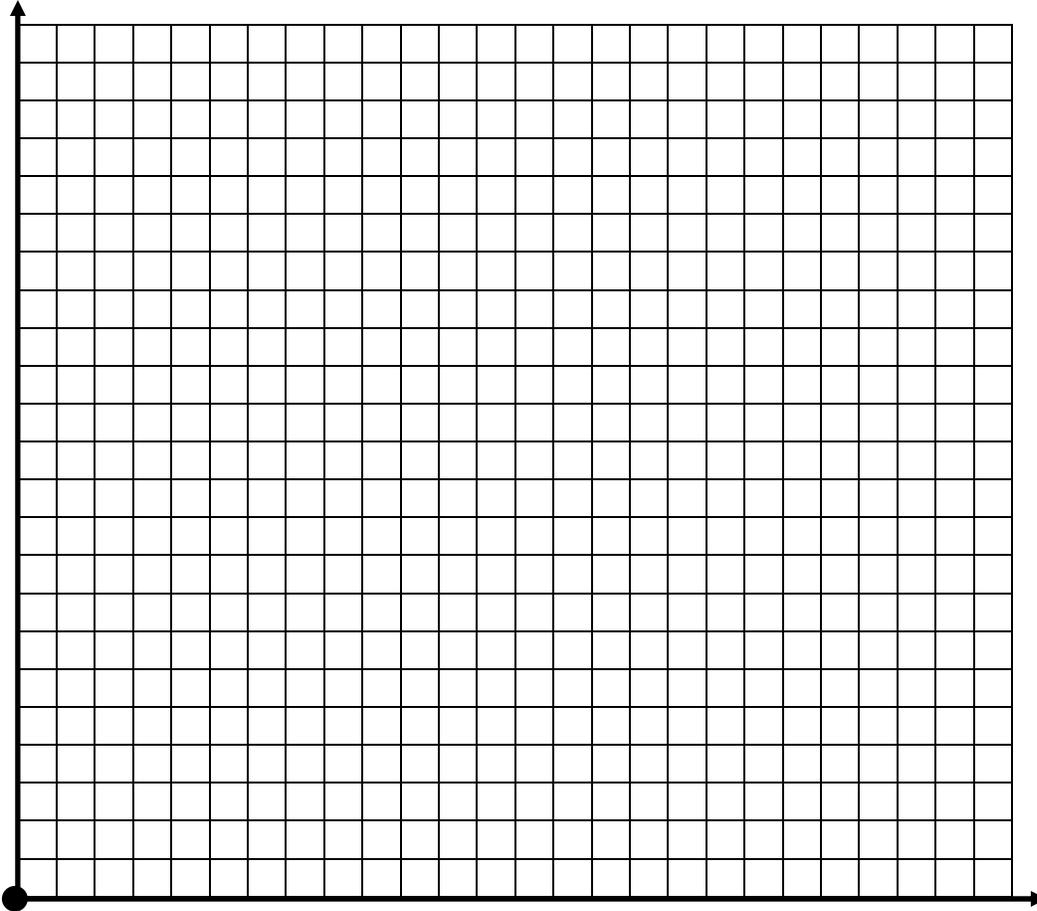
STUDENT WORKSHEET

1)

Complete the Data Table

Slope (cm)	Distance Traveled (cm)

2) Use the graph to plot your data points and draw a line of best fit.



3) Name 2 points on your line of best fit.

_____, _____

4) Find the slope of the line of best fit.

$m =$ _____

5) Name the y -intercept of the line of best.

6) Write the equation of your line of best fit.
