Bouncy Ball

Name:
Date:
Group Members:
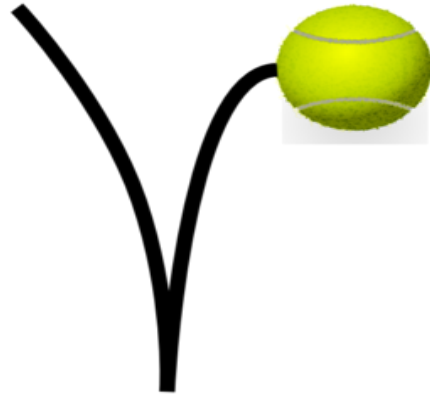
Materials

- Tennis ball (all group members must use the tennis ball appropriately to have class time to complete the lab)
- timer
- packet
- pencil
- roles (timer, bouncer, recorder, counter)

Directions

For this lab you will make a prediction, determine group roles (which change with each bouncer), record your data, graph it, check your prediction and then answer some follow up questions. It is critical that your group works together with this lab. Roles are bouncer, counter, timer and recorder. You are going to collect data every ten seconds for one hundred and fifty seconds. Your timer will need to say, "time" every ten seconds, your counter will then tell your recorder how many bounces your bouncer is at and your recorder records! Sounds easy, takes some planning to pull off and get good data. Counter, do not start back at zero every ten seconds, bounces are cumulative. Good luck!

Hypothesis:
How many times do you think you can bounce a tennis ball in 15.5 minutes? _____

Data:

time (seconds)	cumulative number bounces	Number of Bounces during interval
0		
10		
20		
30		
40		
50		
60		
70		
80		
90		
100		
110		
120		
130		
140		
150		

- On graph paper construct a scatterplot of your data. Time is the independent variable, bounces are dependent. (remember to go up three and over three!)

Describe what your data looks like? Is it what you would anticipate for this type of activity?

Construct a line of best fit (by hand) and use the Q-Method (we will go over tomorrow). Show work below or on the back of the graph. Graph line using a colored pencil.

Which line of best fit (by hand or Q method do you feel fits your data best? Why. For the following questions generate your slope, y-intercept and equation of the line from the line that you feel best fits your data.

Slope work, show all work (show selected points on scatterplot)

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y- intercept =

Equation for line of best fit=

Based upon data collected, how many times could you bounce the ball in 15.5 minutes? Show all work.

What percent off was your predicted value compared to your equation work?

Using your equation, how many times could you bounce the ball in 22.25 minutes? (show all work)

How long would it take you to bounce the ball 2,256,892 times?

What went well with this lab for your group?

What could you improve upon with this lab?

How did you positively contribute to your group?

On a scale of 0 - 10 (10 max, 0 min) evaluate how you did in working with your group under Expectations on the first page. Record value on dashed line.