Spaghetti Bridges

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Presenter: Courtney O’Day

Today we will be collecting, graphing and interpreting data. You will be using spaghetti and pennies for this hands-on activity to determine how many pennies a “Spaghetti Bridge” can withhold.

Goals:

* The students will collect, graph and interpret the data collected.

Objectives:

* Given the necessary materials, the students will calculate the amount of pennies it takes to break certain amounts spaghetti pieces.
* Given the worksheet, the students will collect the data, graph the results, answer questions, and make predictions.

Materials:

* 1 paper cup with 2 holes punched on opposite sides
* 1 cupful of pennies
* Uncooked spaghetti

Activity:

|  |  |
| --- | --- |
| (x)  (Independent Variable)  Number of spaghetti pieces | (y)  (Dependent Variable)  Number of pennies it took to break |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

1. **Graph the results:** Plot the data from your table on a coordinate plane as ordered pairs (x,y)

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2. **Examine the results:** Looking at your graphed points, do they seem to lie along a straight line or curve?

Use the **graph** to answer the following questions:

1. Find the number of pennies needed to break “bridges” of 6 pieces:\_\_\_\_\_ pennies 7 pieces: \_\_\_\_\_\_ pennies, 8 pieces: \_\_\_\_\_ pennies.
2. When looking at your graph, about how many more pennies are required to break a “bridge” each time another piece of spaghetti was added?
3. Describe in words how to determine the number of pennies needed to break a bridge is you know the number of spaghetti pieces.
4. Use your words above to create an equation that can be used to determine the number of pennies (y) needed if you know the number of spaghetti pieces (x).
5. Use your equation to predict the number of pennies needed to break a bridge of 100 spaghetti pieces.