**Tongue Twisting**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_

**Activity:** Measure the time it takes a group of students to say a tongue twister. One student is added each round. Record times and analyze the data to find a line of best fit. Always use complete sentences when answering sentences.

**Materials:**

students, stopwatch, tongue twister, graphing calculator, pencil

1. Record the times in the table as students are added:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

2. Draw a scatterplot of the data; label and scale the axes:



3. Explain why you think the plotted points for each round do not form a straight line.

4. Draw a line of best fit for your data.

5. What is the y- intercept of your line?

6. What is the slope?

7. What does the slope represent in regard to the tongue twister?

8. What is the equation of your line of best fit?

9. Enter the data into your calculator and make a scatterplot. How does the scatterplot on the calculator compare to your scatterplot? What are the similarities and differences?

10. Run a linear regression. How does the regression equation compare to your equation for the line of best fit?

11. Without using technology, estimate how long you think it would take the whole school to say the tongue twister.

12. Using the equation for the line of best fit predict how long it would take the whole school to say the tongue twister.

13. Assess your prediction.

14. Critique this activity. What did you like or dislike?

**Tongue Twisters:**

1. I wish I could wash my Irish wristwatch.

2. Three witches wished three wishes, but which witch wished which wish?

3. Peter piper picked a peck of pickled peppers.

4. Picky people pick Peter Pan peanut butter. It is the only peanut butter picky people pick.