Scatter Plot Project

**Group Members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Overview**

You and your team will choose a topic for your scatter plot project. With assigned tasks, you will work together to create a poster which includes the required information. You and your team will then present your project before your peers.

**Materials**

Gather your materials and use them properly. Be sure to return all of your materials the way you found them.

* Paper
* Pencil
* Calculator
* Chart paper
* Markers
* Ruler

**Topic Ideas**

Choose the topic idea you would like to use.

Compare the value of a car and the number of miles it has been driven.

|  |  |
| --- | --- |
| Distance Driven (miles) | Value of Car ($) |
| 0 | 27,000 |
| 10,000 | 22,000 |
| 30,000 | 20,000 |
| 45,000 | 18,000 |
| 90,000 | 13,000 |
| 105,000 | 10,000 |
| 150,000 | 7,000 |

Compare the amount of time you spent practicing and your points scored during games.

|  |  |
| --- | --- |
| Time Spent Practicing (hours) | Points Scored (points) |
| 0 | 6 |
| 3 | 14 |
| 7 | 16 |
| 12 | 16 |
| 16 | 28 |
| 25 | 36 |
| 33 | 38 |

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**Topic Ideas**

Choose the topic idea you would like to use.

Compare the amount of followers a singer has on Twitter and the amount of iTunes downloads they have.

|  |  |
| --- | --- |
| iTunes Downloads  (songs) | Twitter Followers (people) |
| 400 | 0 |
| 600 | 100 |
| 18,000 | 2,000 |
| 5,000,000 | 1,000,000 |
| 2,000,000 | 18,000,000 |
| 4,000,000 | 62,000,000 |
| 6,000,000 | 90,000,000 |

Compare the amount of games a quarterback wins and his salary.

|  |  |
| --- | --- |
| Games Won (games) | Salary ($) |
| 14 | 12,000,000 |
| 12 | 10,000,000 |
| 9 | 8,500,000 |
| 7 | 6,000,000 |
| 6 | 4,000,000 |
| 4 | 2,500,000 |
| 2 | 1,500,000 |

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**Topic Ideas**

Choose the topic idea you would like to use.

Compare the amount you exercise and the amount of body fat you have.

|  |  |
| --- | --- |
| Time Spent Exercising (hours) | Body Mass Index (%) |
| 0 | 26 |
| 50 | 20 |
| 175 | 20 |
| 200 | 19 |
| 212 | 17 |
| 230 | 14 |
| 250 | 12 |

Compare the amount of homework you do and your score on the EOC.

|  |  |
| --- | --- |
| Amount of Assignments Turned In (assignments) | Score on EOC (%) |
| 10 | 45 |
| 18 | 51 |
| 26 | 76 |
| 36 | 72 |
| 43 | 80 |
| 51 | 81 |
| 65 | 93 |

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**Topic Ideas**

Choose the topic idea you would like to use.

Compare the amount of time spent playing video games and the amount of time spent studying.

|  |  |
| --- | --- |
| Time Playing Video Games (hours) | Time Studying (hours) |
| 8 | 0.5 |
| 7 | 2.5 |
| 6.75 | 3 |
| 4 | 4 |
| 2.5 | 3 |
| 0.5 | 4.5 |
| 0 | 4.75 |

Compare the number of people enlisting in the military and the nation’s unemployment rate.

|  |  |
| --- | --- |
| Enlistment (people) | National Unemployment Rate (%) |
| 3,500,000 | 11.4 |
| 2,250,000 | 10.8 |
| 750,000 | 9.3 |
| 500,000 | 8 |
| 215,000 | 6.8 |
| 160,000 | 4.6 |
| 120,000 | 4 |

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**Topic Ideas**

Choose the topic idea you would like to use.

Compare a toddler’s age to their height.

|  |  |
| --- | --- |
| Toddler’s Age (months) | Toddler’s Height (inches) |
| 18 | 28 |
| 21 | 28.25 |
| 24 | 29 |
| 27 | 29.75 |
| 31 | 30 |
| 35 | 31.5 |
| 36 | 31 |

Compare the number of miles driven and the amount of gas in the gas tank.

|  |  |
| --- | --- |
| Miles Driven (miles) | Remaining Gas in Tank (gallons) |
| 0 | 19 |
| 15 | 18.25 |
| 36 | 16.5 |
| 60 | 15 |
| 99 | 9 |
| 159 | 7.5 |
| 300 | 0.5 |

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**Topic Ideas**

Choose the topic idea you would like to use.

Compare the amount of time spent working on Carnegie and the number of units completed.

|  |  |
| --- | --- |
| Time on Carnegie (hours) | Units Completed (units) |
| 0 | 0 |
| 4 | 3 |
| 6 | 4 |
| 9 | 6 |
| 11 | 9 |
| 14 | 11 |
| 15 | 12 |

Compare the number of payments made and the amount still owed on a loan.

|  |  |
| --- | --- |
| Payments Made (payments) | Amount Owed ($) |
| 0 | 2,000 |
| 7 | 1,500 |
| 13 | 1,200 |
| 16 | 1,000 |
| 21 | 500 |
| 23 | 350 |
| 24 | 0 |

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**Topic Ideas**

Choose the topic idea you would like to use.

Compare the number of books you read in a year and your reading speed (wpm).

|  |  |
| --- | --- |
| Books read (books) | Reading Speed (wpm) |
| 1 | 100 |
| 3 | 150 |
| 5 | 200 |
| 6 | 250 |
| 7 | 275 |
| 8 | 375 |
| 12 | 500 |

Compare the distance you get in Temple Run (Cheat Mode) and the amount of time spent playing.

|  |  |
| --- | --- |
| Time Spent Playing (seconds) | Distance Travelled (meters) |
| 0 | 0 |
| 4 | 500 |
| 10 | 1,000 |
| 25 | 1,500 |
| 30 | 1,800 |
| 39 | 3,000 |
| 45 | 3,300 |

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**Topic Ideas**

Choose the topic idea you would like to use.

Compare the number of hours spent working at Publix and size of your paycheck.

|  |  |
| --- | --- |
| Time Worked (hours) | Paycheck ($) |
| 24 | 150 |
| 29 | 210 |
| 32 | 230 |
| 37 | 265 |
| 38 | 285 |
| 41 | 315 |
| 46 | 400 |

Compare the amount of missing homework assignments you have and your grade.

|  |  |
| --- | --- |
| Missing Homework Assignments (assignments) | Class Grade (%) |
| 0 | 93 |
| 1 | 88 |
| 3 | 76 |
| 5 | 68 |
| 7 | 53 |
| 8 | 50 |
| 9 | 42 |

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**Topic Ideas**

Choose the topic idea you would like to use.

Compare the number of glasses of lemonade bought and your total money from donations.

|  |  |
| --- | --- |
| Number of Glasses bought (glass) | Money Earned From Donations ($) |
| 0 | 2.5 |
| 2 | 6 |
| 5 | 8.50 |
| 8 | 10 |
| 16 | 14 |
| 21 | 20.75 |
| 30 | 24.25 |

Compare the average number of years of schooling and your average salary.

|  |  |
| --- | --- |
| Years in School After High School (years) | Average Salary ($) |
| 10 | 200,000 |
| 8 | 126,000 |
| 6 | 62,000 |
| 4 | 47,000 |
| 3 | 55,000 |
| 2 | 30,000 |
| 0 | 21,000 |

**Task:** Assign each person to one column. Be sure to follow the tasks in order and to **show all work**. Use additional paper if necessary.

|  |  |  |
| --- | --- | --- |
| **Name:** | **Name:** | **Name:** |
| Draw the coordinate grid. | Number each axis appropriately. | Title the scatter plot and label each axis. |
| Check that units are listed for each axis. | Plot the data points from the given table onto your coordinate grid. | Verify that the points are plotted correctly. |
| What type of correlation does your data have?  Positive Correlation  Negative Correlation  No Correlation | In sentences, write what the correlation means. | Draw a line of fit/trend line. Be sure it goes through **at least two** of your data points. |
| List two points that the line of fit passes through and find the slope of the line. | Verify that the slope is correct. | Check that your slope matches your correlation. (A graph with a negative correlation should have a negative slope.) |
| Write the equation of the line in point-slope form. | Write the equation of the line in slope-intercept form. | Choose an x-value not given. |
| Plugging in your new x-value, what would be its corresponding y-value? (Hint: Plug x into your equation.) | Is this output reasonable? **Explain.**  Add this new point to your graph. | Write an equation in slope-intercept form of a line that is parallel to your line of fit. |
| Describe what this parallel line could represent. | Write an equation in slope-intercept form of a line that is perpendicular to your line of fit. | Describe what this perpendicular line represents. |
| Be sure each teammate can answer and explain each task in preparation for your presentation.  Turn in your project materials and papers. | | |