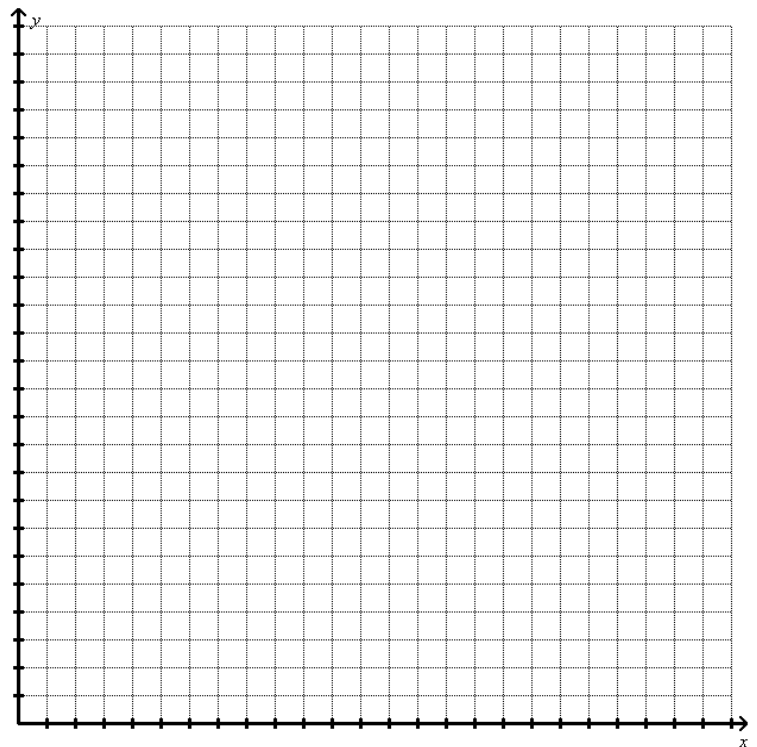# Scatter Plot

Eye Color vs Birth Month

Below is a table to record the eye color and birth month of a person. You will need to have the eye color and birth month of 15 people. Use the following numbers to represent the eye color: 1 = Amber, 2 = Blue, 3 = Brown, 4 = Gray, 5 = Green, 6 = Hazel, 7 = Red & Violet. For the birth month you will be using a number as well. For example, January is 1, February is 2, March is 3, and so on and so forth. Each x–value and y–value is an ordered pair. For example, the eye color Hazel and a birth month of April would be (6, 4) as an ordered pair. Graph the 15 ordered pairs you collected as data on the grid provided. Make sure you label the x–axis and the y–axis. You should NOT have a break in either axis. Use as much as the grid as possible

	x Eye Color	y Birth Month
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Label: _____

Label: _____

1. Compare the relationship between the eye color and the birth month of the data graphed.

2. Draw a "trend line" also known as a line of best fit. You should consider the important information when drawing a trend line:

> ➢ **Your trend line should go through two points that you already graphed on the grid.**

> ➢ **Your trend line should follow the trend. If the trend is positive, the line should go up from left to right. If the trend is negative, the line should go down from left to right.**
> ➢ **Your trend line should have about the same number of points above AND below the line.**

➢ **Your trend line should be as close to the data points as possible.**

3. Create an equation for the line of best fit in Slope–Intercept form (y = mx + b):

STEP 1: Write down two order pairs from your trend line:
Point 1: (,   ) Point 2: (,   )   Using these two points on your trend line, find

the slope. The formula to find the slope is $m = \dfrac{y_2 - y_1}{x_2 - x_1}$

STEP 2: Find the y–intercept. Use one of the points from step 1 and the slope to substitute these values into the y = mx + b equation and solve for "b"

STEP 3: Write the equation of your trend line:

For 4 & 5, use your equation of your trend line to predict the following questions.

4. If a person has an eye color of Green, what will their birth month be?

5. If a person has a birth month of April, what will their eye color be?