

## Scatter plot worksheet

1. Go to page 6 of the article and review Figure 6. This is the data you will use to create a scatter plot displaying the work-life earnings for women/men by education level (choose either men or women for your scatter plot).

2. Create your list of data in the table below:

Education level	# yrs (average)	Work-life earnings estimate (in millions of dollars)
Not high school graduate	10	
High school graduate	12	
Some college	13	
Associate's Degree	14	
Bachelor's Degree	16	
Master's Degree	18	
Professional Degree	20	
Doctoral Degree	22	

3. Next, plot this data on your graph paper. Pay careful attention to your scales and label your axes.
4. Using your graph, determine if the points displayed have a positive relationship (correlation), a negative relationship (correlation), no relationship, or a constant relationship. \_\_\_\_\_
5. If your data does have a relationship, use an informal method with your graph to approximate a line of best fit.
6. Next, use your graphing calculator to check your scatter plot and the line of best fit that you estimated.  $y =$  \_\_\_\_\_
7. Describe the graphs created from this data. How are education level and financial earnings correlated? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. What conclusion can you draw from this data? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. Are there any outliers in your data? If so, what are they and why do you think they exist? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. How could this information affect your decisions regarding high school and college? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Scatter plot worksheet: Answer key

- Go to page 6 of the article and review Figure 6. This is the data you will use to create a scatter plot displaying the work-life earnings for women/men by education level (choose either men or women for your scatter plot).
- Create your list of data in the table below:

**DATA for WOMEN**

Education level	# yrs (average)	Work-life earnings estimate (in millions of dollars)
Not high school graduate	10	<b>0.7</b>
High school graduate	12	<b>1.0</b>
Some college	13	<b>1.2</b>
Associate's Degree	14	<b>1.3</b>
Bachelor's Degree	16	<b>1.6</b>
Master's Degree	18	<b>1.9</b>
Professional Degree	20	<b>2.9</b>
Doctoral Degree	22	<b>2.5</b>

- Next, plot this data on your graph paper. Pay careful attention to your scales and label your axes.
- Using your graph, determine if the points displayed have a positive relationship (correlation), a negative relationship (correlation), no relationship or a constant relationship. **positive correlation (slope goes up to the right)**
- If your data does have a relationship, use an informal method with your graph to approximate a line of best fit.
- Next, use your graphing calculator to check your scatter plot and the line of best fit that you estimated.  **$y = .17x + -1$**

**Teachers may need to remind students to adjust their windows for the graphing calculator. This is a good opportunity to discuss whether negative values are appropriate in this graph.**

- Describe the graphs created from this data. How are education level and financial earnings correlated? **There is a positive relationship between the number of years of education and the work-life earnings estimate.**
- What conclusion can you draw from this data? **The longer you stay in school, the more money you make.**
- Are there any outliers in your data? If so, what are they and why do you think they exist? **The work-life earnings for doctoral degree is less than that of the professional degree. It seems as if you make more money if you stop at a professional degree. There is a marked difference between the earnings of men and the earnings of women.**

## Scatter plot worksheet: Answer key

1. Go to page 6 of the article and review Figure 6. This is the data you will use to create a scatter plot displaying the work-life earnings for women/men by education level (choose either men or women for your scatter plot).
2. Create your list of data in the table below:

**DATA for MEN**

Education level	# yrs (average)	Work-life earnings estimate (in millions of dollars)
Not high school graduate	10	1.1
High school graduate	12	1.4
Some college	13	1.7
Associate's Degree	14	1.8
Bachelor's Degree	16	2.5
Master's Degree	18	2.9
Professional Degree	20	4.8
Doctoral Degree	22	3.8

3. Next, plot this data on your graph paper. Pay careful attention to your scales and label your axes.
4. Using your graph, determine if the points displayed have a positive relationship (correlation), a negative relationship (correlation), no relationship or a constant relationship. positive correlation (slope goes up to the right)
5. If your data does have a relationship, use an informal method with your graph to approximate a line of best fit.
6. Next, use your graphing calculator to check your scatter plot and the line of best fit that you estimated.  $y = .29x + -2$

**Teachers may need to remind students to adjust their windows for the graphing calculator. This is a good opportunity to discuss whether negative values are appropriate in this graph.**

7. Describe the graphs created from this data. How are education level and financial earnings correlated? There is a positive relationship between the number of years of education and the work-life earnings estimate.
8. What conclusion can you draw from this data? The longer you stay in school, the more money you make.
9. Are there any outliers in your data? If so, what are they and why do you think they exist? The work-life earnings for doctoral degree is less than that of the professional degree. It seems as if you make more money if you stop at a professional degree. There is a marked difference between the earnings of men and the earnings of women.