

FITTING A LINE TO DATA – EARNINGS AND EDUCATIONAL ATTAINMENT

Activity Items

The following items are part of this activity and appear at the end of this student version.

- Item 1: Educational Attainment and Median Annual Income
- Item 2: Educational Attainment and Median Annual Income by Sex

Student Learning Objectives

- I will be able to create a scatter plot relating median annual income to years of education.
- I will be able to informally fit a line on a scatter plot, derive an approximate equation for that line, and determine how well the line fits the data.

NAME: _____ DATE: _____

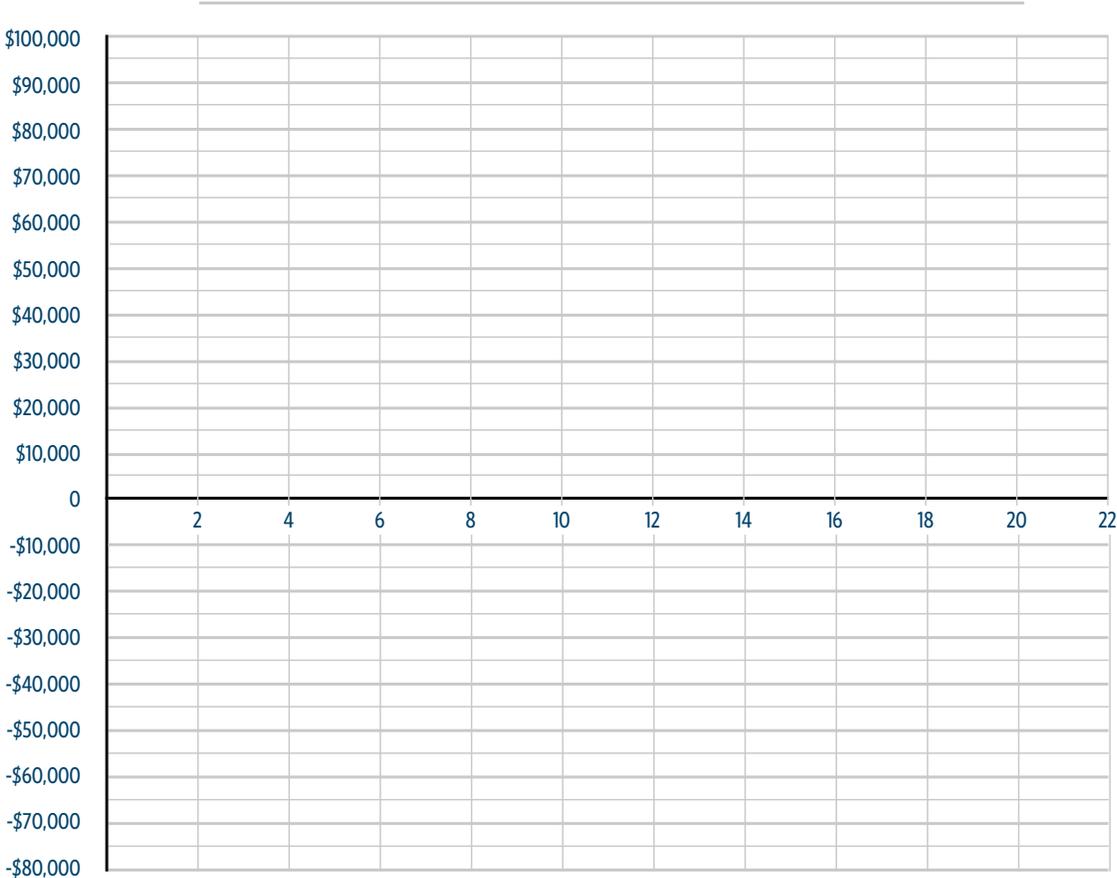
What do you want to be when you grow up? How much money do you think you will make? How many years of education will you need for this career? These are important questions to ask yourself as you get older — surely you've heard them before from teachers or guardians. In this activity, you will explore data that could help you answer them.

The U.S. Census Bureau conducts a survey every month called the American Community Survey to collect data from a sample of the American population on things like income and education. **Item 1: Educational Attainment and Median Annual Income** shows the results from 2014 for workers 25 years and older.

Part 1

1. What patterns do you see in the data in **Item 1**?

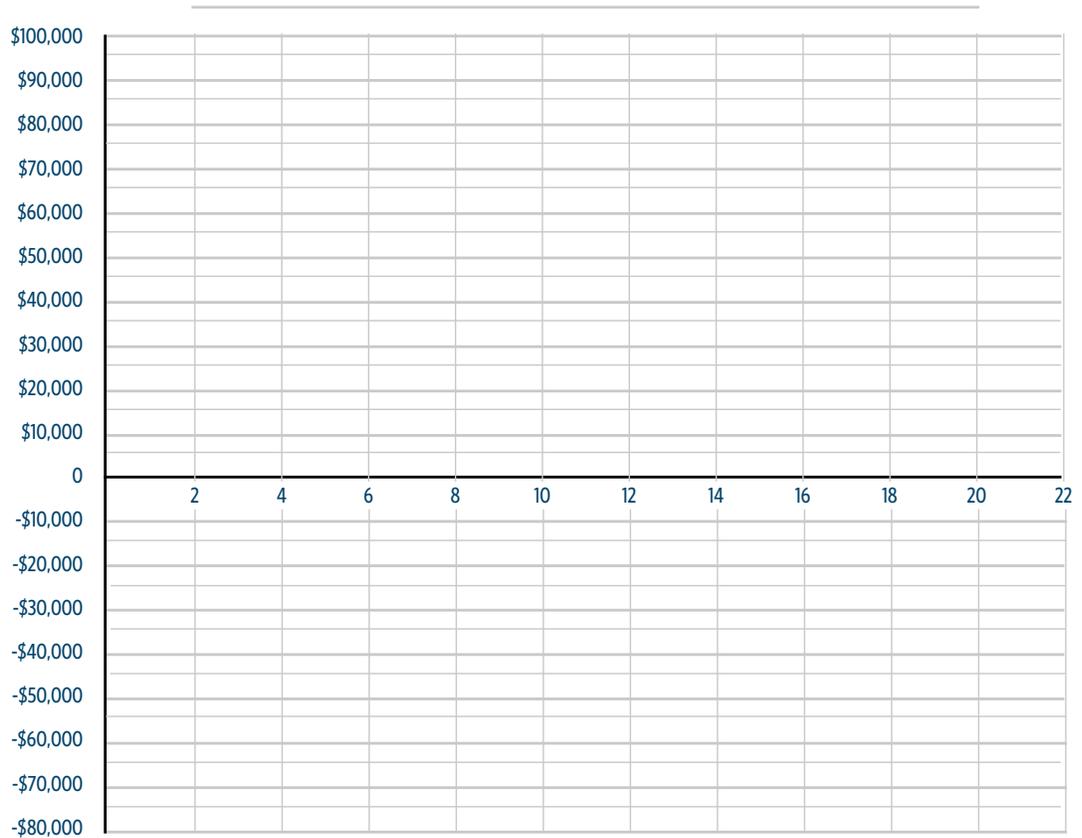
2. Create a scatter plot of these data on the graph template below, plotting the points as accurately as you can. Be sure to title your plot and label your axes.



Part 2

Now we will look at the educational attainment and median income data for men and for women.

Use the data in **Item 2: Educational Attainment and Median Annual Income by Sex** to create two scatter plots with lines of best fit — one for men and one for women (following the same process you used in part 1 to plot your points, draw your line, and determine your equation). Round all numbers to the nearest whole number.



For men: $y =$ _____



For women: $y =$ _____

Part 3

Write a one-paragraph summary, with a title, to describe what you learned about the relationship between earnings and educational attainment through creating your scatter plots, finding your lines of best fit, and determining their equations.

Item 1: Educational Attainment and Median Annual Income

Educational Attainment	Approximate Years of Education	Median Annual Income
Less than high school graduate	10	\$20,542
High school graduate or equivalent	12	\$27,809
Some college or associate degree	14	\$33,175
Bachelor's degree	16	\$50,450
Graduate or professional degree	18	\$66,175

[2014 American Community Survey 1-Year Estimates](#)

Click on the link above to view the source data.

Item 2: Educational Attainment and Median Annual Income by Sex

Men:		
Educational Attainment	Approximate Years of Education	Median Annual Income
Less than high school graduate	10	\$24,030
High school graduate or equivalent	12	\$32,600
Some college or associate degree	14	\$41,150
Bachelor's degree	16	\$61,249
Graduate or professional degree	18	\$82,215

Women:		
Educational Attainment	Approximate Years of Education	Median Annual Income
Less than high school graduate	10	\$15,392
High school graduate or equivalent	12	\$22,032
Some college or associate degree	14	\$27,840
Bachelor's degree	16	\$41,570
Graduate or professional degree	18	\$55,702

[2014 American Community Survey 1-Year Estimates](#)

Click on the link above to view the source data.