

Name: \_\_\_\_\_  
Date: Thursday, February 28th, 2019

Group: A B C  
Class: \_\_\_\_\_

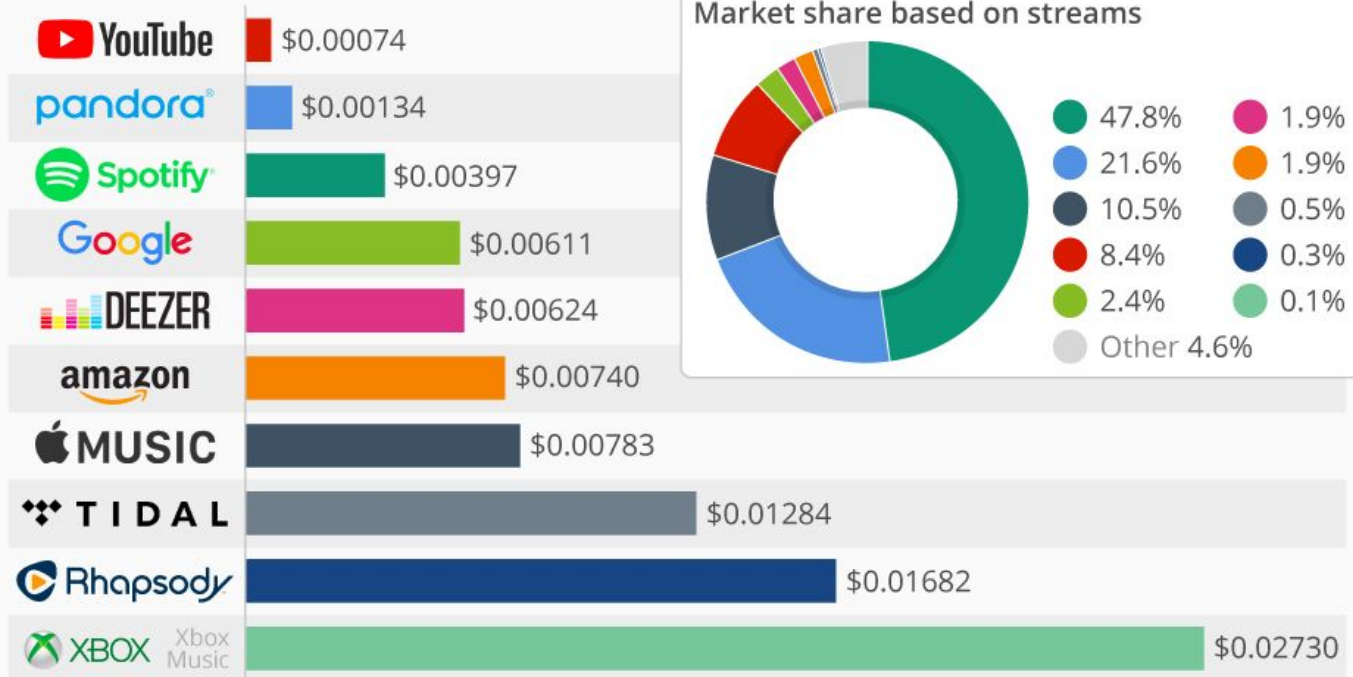
## Introduction to Statistics (Module 5, Lesson 20)

Objective: SWBAT make predictions about a population by analyzing a sample.  
Standard: 7.SP.A.1 and 7.SP.A.2

### Do Now: Blast from the Past

## Music-Streaming: Who Pays Best?

Gross payout to labels per stream by selected streaming services\*



\* Data based on a mid-sized indie label with an approximately 200+ album catalog now generating over 200m+ streams annually.

Source: The Trichordist

statista

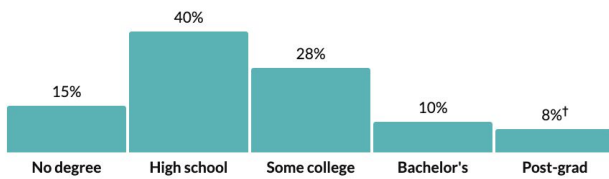
- 1) Which music platforms pay the best? \_\_\_\_\_
- 2) Which platforms pay the worst? \_\_\_\_\_
- 3) What surprises you the most? Why? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 4) How much more money do you make with Jay-Z's Tidal streaming service than Spotify? \_\_\_\_\_

## Deep Dive in Data: Education in DC

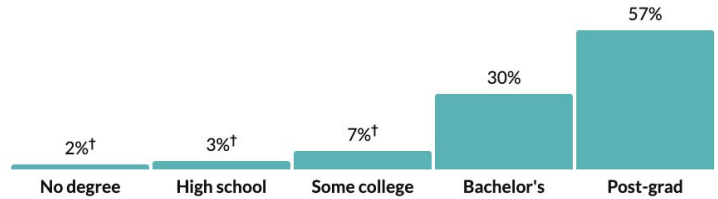
We're going to take a deeper dive into Ward 7 in DC, the location of Kelly Miller Middle School. There are approximately 80,000 in Ward 7 and approximately 80,000 in Ward 3 in DC.



### Educational Attainment of 25+ Year-Olds in Ward 7



### Educational Attainment of 25+ Year-Olds in Ward 3



$$\frac{\text{Part}}{\text{Whole}} = \frac{\text{Percent}}{100}$$

1) About how many adults living in Ward 7 have a bachelor's degree or higher?

2) About how many adults living in Ward 3 have a bachelor's degree or higher?

3) How many more people in Ward 3 have a bachelor's degree or higher than Ward 7? \_\_\_\_\_

### Stop and Jot

What do you think is the impact of having more people with bachelor's degrees or higher? \_\_\_\_\_

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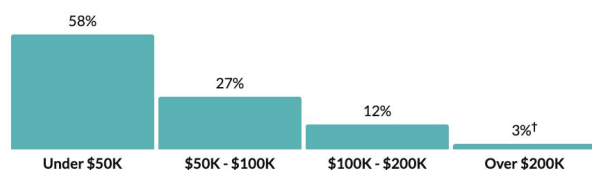
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### Partner Practice

Keeping in mind that both Ward 7 and Ward 3 have about 80,000 people each, analyze the following data with your partner.

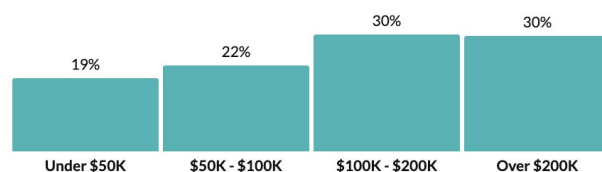
#### Household Income in Ward 7

Household income



#### Household Income in Ward 3

Household income



1) How many people in Ward 7 make under \$50,000 a year? \_\_\_\_\_ Ward 3? \_\_\_\_\_

2) How many people in Ward 7 make over \$200,000 a year? \_\_\_\_\_ Ward 3? \_\_\_\_\_

3) Do you think there is any impact on each community by the differences in income? Why or why not?

### Practice and Score

About how many people in Ward 7 make between \$50,000 and \$100,000 a year? \_\_\_\_\_ Ward 3? \_\_\_\_\_

Mild (None correct)

Medium (Part correct)

Spicy (All correct)

**Differentiated Practice**

**Mild**

In a random survey of Californians, 58% voted in favor of a new law. If the population of California is 37,700,000 people, how many are in favor of the law?

**Medium**

The librarian is trying to determine what types of books to sell at the upcoming school book fair. She conducted a random survey of students regarding their favorite genre of literature, and got the following results. What percent of the books she sells should be sports themed?

Mystery	Science Fiction	Romance	Sports
23	15	2	10

**Spicy**

A store sells 3 types of pants: jeans, capris, and cargos. The store workers survey 50 customers at random about their favorite type of pants. 25 customers reported liking jeans, 15 customers chose capris, and 10 customers reported liking cargos the best. If the store plans to order 450 pairs of pants, how many pairs of jeans should they order?

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**Introduction to Statistics (Module 5, Lesson 20) Exit Ticket**

**Exit Ticket**

In a random survey of DC residents, 67% said they approve of the mayor. There are about 700,000 people in DC. How many people approve of the mayor?

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**7th Grade (Homework)**

Homework Helper

Solving Percent Problems with the Proportion Method

Usually: Two of the three numbers will be given and one number is unknown.

Use

$$\frac{\text{"part"}}{\text{whole}} = \frac{\text{percent}}{100}$$

plug in the known numbers and use x for the unknown number.

Then use logic or algebra to solve the proportion.

Example: 25% of 80 is what number.

$$\frac{x}{80} = \frac{25}{100}$$

$$x = 20$$

$$\frac{\text{Part}}{\text{Whole}} = \frac{\%}{100}$$

$$\frac{12}{30} = \frac{x}{100}$$

**Cross-Multiply**

$$30x = 1200$$

$$x = 40\%$$

$$60\% = \frac{60}{100} = 0.6$$

Percent means "per one hundred", so to convert a percent to a fraction, divide it by 100.

The table shows the results of a random survey at Scobey Middle School about students' favorite cookies. Based on the results from the survey, what percent of students at Scobey Middle like...

1. chocolate chip
2. peanut butter
3. oatmeal
4. sugar
5. raisin

Cookie	Number
Chocolate chip	49
Peanut butter	12
Oatmeal	10
Sugar	8
Raisin	3

6. There are 424 students at Scobey Middle School. About how many can be expected to prefer chocolate chip cookies?

7. The circle graph shows the results of a survey of teens and where they would prefer to spend a family vacation. Predict how many of 4,000 teens would prefer to go to an amusement park.



8. In 2000, about 29% of the foreign visitors to the U.S. were from Canada. If a particular hotel had 150,000 foreign guests in one year, how many would you predict were from Canada?