

## Data Analysis 2

### What is the first thing you do with data?

The first strand of statistics we will be concentrating on is the data analysis strand. We need ways to show the data so that we can see patterns, relationships, trends and exceptions. So, what should we do first with data? There are three things you always do first with data:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

### **Categorical Data**

#### **Frequency Table**

#### **Bar Chart**

#### **Pie Chart**

If we want to explore categorical data more... We can create a:

**2-way table, 2x2 table.**

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	<b>First</b>	<b>Second</b>	<b>Third</b>	<b>Crew</b>	<b>Total</b>
<b>Alive</b>	203	118	178	212	711
<b>Dead</b>	122	167	528	673	1490
<b>Total</b>	325	285	706	885	2201

**Cell** \_\_\_\_\_

**Marginal distributions/Percents** \_\_\_\_\_

	<b>First</b>	<b>Second</b>	<b>Third</b>	<b>Crew</b>	<b>Total</b>
<b>Alive</b>	203	118	178	212	____%
<b>Dead</b>	122	167	528	673	____%
<b>Total</b>	____%	____%	____%	____%	____%

**Column percents** \_\_\_\_\_

	<b>First</b>	<b>Second</b>	<b>Third</b>	<b>Crew</b>	<b>Total</b>
<b>Alive</b>	____%	____%	____%	____%	____%
<b>Dead</b>	____%	____%	____%	____%	____%
<b>Total</b>	100%	100%	100%	100%	100%

**Picture of Column Percents**

## Row percents

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	First	Second	Third	Crew	Total
Alive	____%	____%	____%	____%	100%
Dead	____%	____%	____%	____%	100%
Total	____%	____%	____%	____%	100%

## Picture of Row Percents

### Check for Understanding

A statistics class reports the following data on Sex and Eye color for students in the class:

		Eye Color			
		Blue	Brown	Green/Hazel/Other	Total
Sex	Males	6	20	6	32
	Females	4	16	12	32
	Total	10	36	18	64

1. What percent of females are brown-eyed?
2. What percent of brown-eyed students are female?
3. What percent of students are brown-eyed females?
4. What's the distribution of Eye Color?
5. What's the distribution of Eye Color for the males?
6. Compare the percent that are female among the blue-eyed students to the percent of all students who are female

## Quantitative Data

**Types of Pictures:** \_\_\_\_\_

**What do you look for in a picture:**

**Shape:** \_\_\_\_\_

**Center:** \_\_\_\_\_

**Spread:** \_\_\_\_\_

**Outliers:** \_\_\_\_\_

**Dotplots:** \_\_\_\_\_

EPA highway gas mileage ratings for 21 model year 2016 midsize cars

19 19 25 26 27 28 29 29 30 30 30 30 31 32  
33 34 34 35 35 36 38

**Stemplots (Stem and Leaf Plots)** \_\_\_\_\_

Pulse rates of 23 women taken by a researcher at a health clinic

56 60 64 64 64 68 68 68 68 72 72 72 72 76  
76 76 76 80 80 80 80 84 84 88

## Histograms

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### Ages of Presidents at Death

Washington	67	Filmore	74	Roosevelt	60	Ford	93
Adams	90	Pierce	64	Taft	72	Reagan	93
Jefferson	83	Buchanan	77	Wilson	67		
Madison	85	Lincoln	56	Harding	57		
Monroe	73	Johnson	66	Coolidge	60		
Adams	80	Grant	63	Hoover	90		
Jackson	78	Hayes	70	Roosevelt	63		
Van Buren	79	Garfield	49	Truman	88		
Harrison	68	Arthur	57	Eisenhower	78		
Tyler	71	Cleveland	71	Kennedy	46		
Polk	53	Harrison	67	Johnson	64		
Taylor	65	McKinley	58	Nixon	81		

### Ages of Students in After School Care

Age	Frequency
11	20
10	40
9	80
8	70
7	30
6	9
5	10