

## Statistics 104 - Laboratory 2

During laboratory 1 you collected data on Fun Size Bags of Plain M&Ms. In this laboratory we will look at summarizing some of the data and interpreting JMP output.

Variable Name	Weight of full bag (g)	Blue	Brown	Green	Orange	Red	Yellow
Bag 1	14	4	0	6	3	4	1
Bag 2	16	4	1	6	5	1	1
Bag 3	15	4	2	5	4	1	0
Bag 4	17	6	0	5	6	2	1
Bag 5	16	4	2	5	1	1	4
Bag 6	18	8	1	3	1	3	5
Bag 7	15	4	4	1	4	1	3
Bag 8	17	4	4	4	2	3	1
Bag 9	16	5	2	2	6	2	0
Bag 10	16	4	2	4	4	1	3

### 1. Color

One of the variables collected was the color of each M&M. Consider the collection of all the M&Ms in the 10 Fun Size Bags.

- What kind of variable is color?
- Compute percentages for each of the colors.
- Create a graphical display of the colors and percentages.
- What is most frequently occurring color?
- What is the least frequently occurring color?
- Are there colors that occur with about the same frequency? If so, what are they?

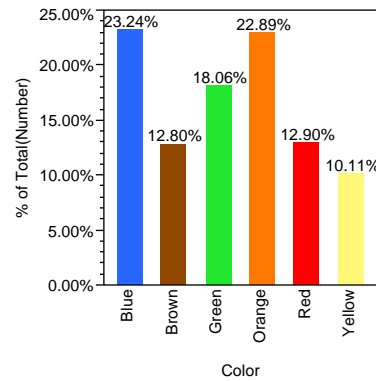
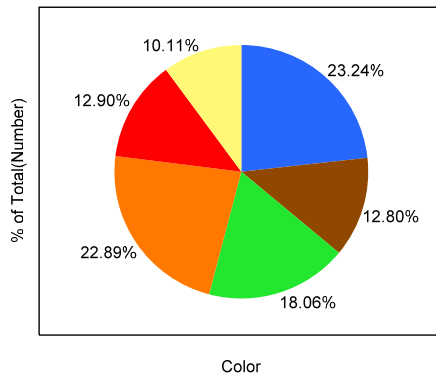
### 2. Weight

- Calculate the sample mean and sample standard deviation for the 10 full bags. Are these parameters or statistics? Explain briefly.
- Calculate a five number summary for the weights of the 10 full bags.
- Construct a box and whiskers plot for the weights of the 10 full bags.

### 3. JMP Analysis of Combined Data

Below is JMP Output for the Fun Size Bags of M&Ms used by all sections of Stat 104 this semester. Write a brief paragraph summarizing what can be learned about Fun Size Bags of M&Ms from the analysis of color and weight for the combined data.

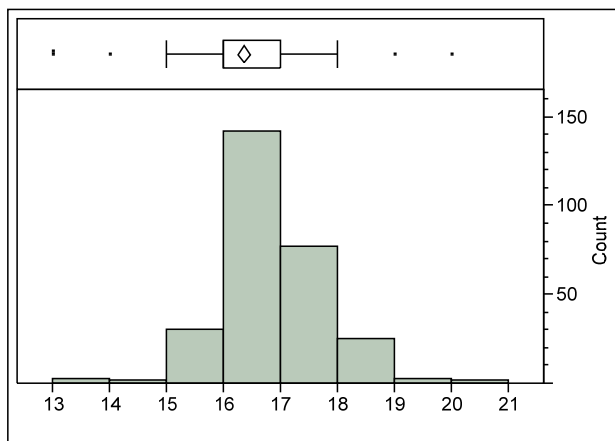
#### Chart



Color ■ Blue ■ Brown ■ Green ■ Orange ■ Red ■ Yellow

Color ■ Blue ■ Brown ■ Green ■ Orange ■ Red ■ Yellow

#### Distributions Weight (g)



Five Number Summary		Statistics		
100.0%	maximum	20	Mean	16.35
75.0%	quartile	17	Std Dev	0.90
50.0%	median	16	N	276
25.0%	quartile	16		
0.0%	minimum	13		

## Statistics 104 - Laboratory 2

### Group Answer Sheet

Names of Group Members: \_\_\_\_\_, \_\_\_\_\_  
\_\_\_\_\_

#### 1. Color

a. What kind of variable is color?

b. Compute percentages for each of the colors.

	Blue	Brown	Green	Orange	Red	Yellow	Total
Number							
%							

c. Create a graphical display of the colors and percentages.

d. What is most frequently occurring color?

e. What is the least frequently occurring color?

f. Are there colors that occur with about the same frequency? If so, what are they?

