# Algebra 2

## 9-06 Making Inferences from Experiments

**a.** Find the experimental difference of the mean yield of the treatment group, $\overline{x}_{treatment}$, and the mean yield of the control group, $\overline{x}_{control}$.

| Total Yield of Green Bell Pepper Plants (kilograms) | |
|---|---|
| Control Group | Treatment Group |
| 0.8 | 1.0 |
| 0.5 | 1.1 |
| 0.6 | 0.9 |
| 0.7 | 0.8 |
| 0.9 | 1.2 |
| 1.1 | 0.8 |
| 0.8 | 0.6 |
| 1.0 | 1.3 |
| 0.6 | 1.1 |
| 0.9 | 0.9 |

**b.** Display the data in a double dot plot.

**c.** What can you conclude from parts (a) and (b)?

### Resampling

- When the sample size is too _____ to be meaningful

1. Combine _____ the results
2. Assign each data point a _____
3. Use a _____ to select all the data points
4. Make the first half the new _____ and the other half the new _____
5. Find $\overline{x}_{treatment} - \overline{x}_{control}$
6. Repeat _____ times and draw a _____ of the differences
7. If the experimental difference is near the _____ of the histogram, then it is significant

Resample the data using a simulation. Use the mean yield of the new control and treatment groups to calculate the difference of the means.

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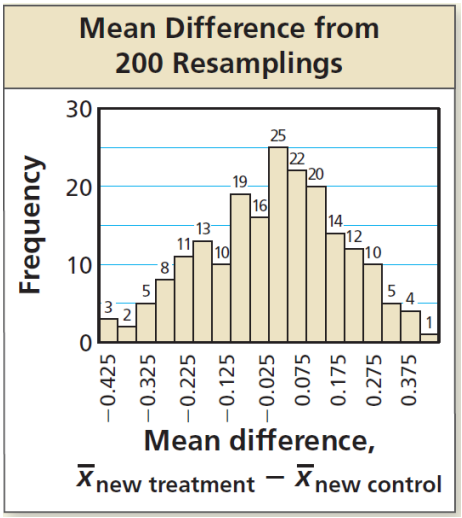
| Total Yield of Green Bell Pepper Plants (kilograms) | |
|---|---|
| Control Group | Treatment Group |
| | |

The histogram shows the results from 200 resamplings of the data. Compare the experimental difference of 0.18 from Example 1 with the resampling differences. What can you conclude about the hypothesis? Does tap water have an effect on the yield?




- If no _____ is given, use the resampling simulator at **andrews.edu/~rwright/algebra2/ResamplingSimulator.html**

509 #1-10 all, 13-16 all, 20 = 15