



Purpose:

To *conduct* and *analyze* the effectiveness of a **clinical trial**.

Vocabulary:

- **Control trial** – A standard trial that experimental trials are *compared to* in a scientific experiment.
- **Experimental trial** – A trial, or series of trials, that contain the *manipulated variable* in a scientific experiment.
- **Sample size** – The number of observations in a sample.
- **Trade-off** – A decision or action that involves choosing between two or more possible choices after carefully comparing the advantages and disadvantages of each choice.

Scientific Method:

Problem: How are medicines tested during a clinical trial?

Question: How effective is the pink solution (medicine) for curing headaches?

Hypothesis: If a person with a headache (taste of yellow solution) is given the medicine (pink solution), then the headache will be cured because the medicine is designed to cure headaches.

Experiment: Follow the procedure given on page A-12 & A-13 in your book.

***** Please be sure to read the safety instructions before proceeding.**

Data: Record the total number for your group in Data Table 1 below. (4pt)

Data Table 1. Results of Clinical Trial			
Lab Station	Same as yellow solution	Better than yellow solution	Worse than yellow solution
1			
2			
3			
4			
5			
6			
7			
8			

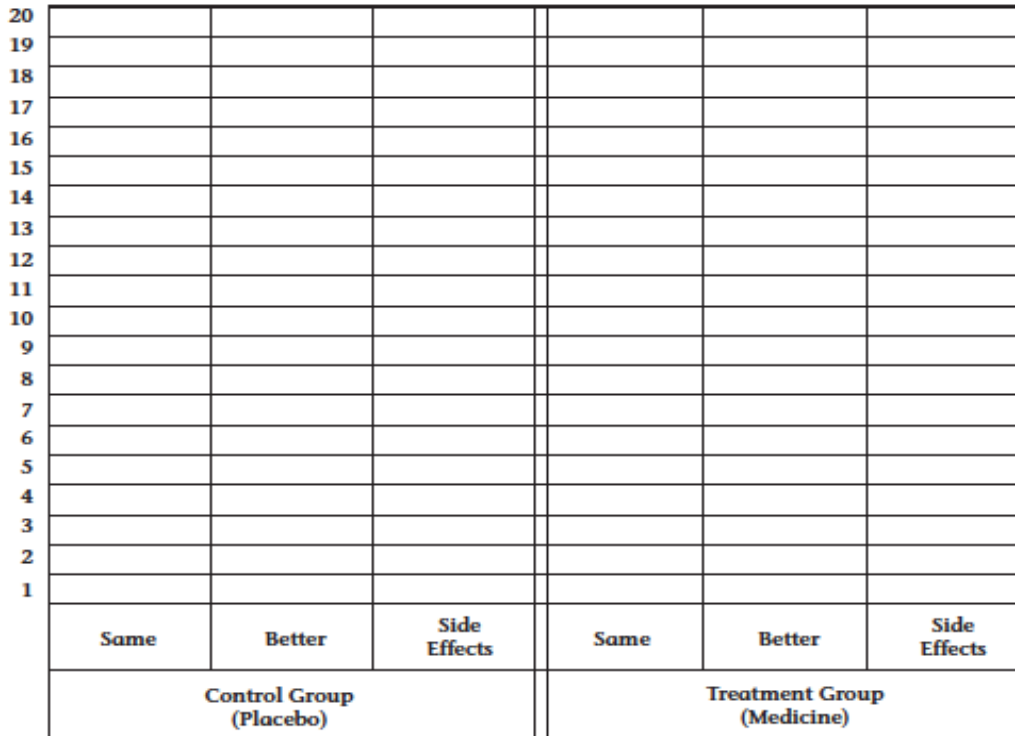
Analysis:

1. Complete Data Table 2 using the data from Data Table 1.

Data Table 2. Response to Treatment vs. Placebo							
	Same as yellow solution (not cured)		Better than yellow solution (cured)		Worse than yellow solution (cured with side-effects)		Sample Size
Control Trial - Evens (received placebo)	#	%	#	%	#	%	
Experimental Trial - Odds (placebo & medicine)	#	%	#	%	#	%	

2. Complete a bar graph below using the data from Data Table 2. Put the number & percentage on top of each bar.

Bar Graph 1. Response to Treatment vs. Placebo



3. Double check each team member’s data for accuracy. Discuss the results with your instructor.

Conclusion:

1. a. What is a placebo and why are placebos included in clinical trials?

<p>a. . _____</p> <p>_____</p> <p>_____</p> <p>b. . _____</p> <p>_____</p> <p>_____</p>

2. **Analyzing Data:** Using the data shown in Data Table 2 and Graph 1 above; what evidence you have that the medicine tested does or does not work to improve headaches?

List two pieces of evidence below.

a. _____ _____ _____
b. _____ _____ _____

3. **Analyzing Data 2:** In this lab, if a person finds that the medicine tastes better, the headache is gone. If the medicine tastes worse, the headache is gone, but the person has side effects.

Using the data above, tell the trade-offs of using medicine with side effects. Be sure to state:

- a. the **effectiveness** (did it work) of the medicine and
- b. the **safety** (side effects) of this medicine for treating headaches?

Support your conclusion with at least two pieces of evidence. (Use F.R.E.D.)

a. _____ _____ _____ _____ _____ _____ _____ _____
b. _____ _____ _____ _____ _____ _____ _____ _____