

## Writing: A Protocol for Data Collection

There are different kinds of writing that are called protocols; these vary depending on your field and the reason for the writing. We'll specifically discuss today protocols for data collection.

What is the purpose?

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Who is the audience?

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What is the form?

A protocol like this has several common sections, including: The objective and a brief summary of the study and the protocol. A list of the necessary materials, including personnel, if applicable, and who the subjects are and how they will be chosen, if applicable. Most importantly, it has a list of the specific procedures that should be followed. These procedures should be written using clear, declarative, language. The lists can be bulleted lists and do not necessarily need to be put into paragraphs.

Why is this a statistical task? That is, why is it important that a statistician help draft the protocol?

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## Tomato Juice Saltiness Trial

**Objective:** To determine the difference threshold for reduction of salt in tomato juice.

**Summary:** The difference threshold is the amount that salt can be reduced and not be noticed 50% of the time. We will prepare tomato juice at six reduction levels of salt and for each level, give each subject a sample at that level along with a sample at the standard level. For each pair, subjects will indicate which of the two they believe is the saltier.

### Materials:

- 5 #10 cans tomato paste (Contadina, Del Monte Foods, San Francisco, CA)
- 15 gallons distilled water (Cub Foods)
- 300 grams USP sodium chloride (Fisher Scientific, Fair Lawn, NJ)
- 4 liter flask
- 12 – 2 liter flasks
- 1 liter liquid measuring cup
- 0.5 mL solid measuring cup
- teaspoon
- whisk
- digital scale
- 12 labels
- permanent marker
- 200 lidded plastic cups
- ballpoint pen
- taster sheets (provided)

**Subjects:** From the pool of 100 trained tasters maintained by the Department, invite tasters 4, 7, 17, 19, 21, 24, 41, 47, 65, 66, 70, 74, 80, 98, and 100, to come to the Tasting Lab between 9am and 6pm on the day of the study, as their schedule permits.

### Procedure:

*Preparation:* At least one day ahead of time, prepare the juice as follows, repeating for each row of the provided table.

- Measure 3.2 liters of water into the 4 liter flask.
- Measure 0.8 liters of tomato paste, using the liter measuring cup.
- Pour the tomato paste into the water, and whisk until mixed.
- Pour the resulting tomato juice into two 2 liter flasks. Pour approximately 0.5 liters at a time, and alternate between the two flasks.
- Label the first flask with the number given by “label.1” in the table below, and the second flask with the number given by “label.2”, using the permanent marker to write the number on the label.
- Place the solid measuring cup on the scale, zero the scale, and use the teaspoon to measure the “grams.1” amount into the cup. Pour into the first flask and whisk.
- Similarly, measure the “grams.2” amount into the second flask and whisk.
- Place flasks in refrigerator.
- Wash equipment and repeat for each row of the following table.

	grams.1	grams.2	label.1	label.2
1	44	64	422	572
2	64	40	542	915
3	56	64	907	452
4	64	52	118	440
5	48	64	386	961
6	60	64	201	854

*Day of Test:*

When each subject arrives, select the next provided taster sheet (example shown below), and perform the following. If other subjects arrive while a test is in progress, ask them to wait outside.

- Write the taster number and time on the sheet.
- Give the taster the sheet and instruct the subject as follows: “You will receive six pairs of tomato juice. For each pair, please determine which is saltier and circle the corresponding code on this sheet.”
- Pour one cup of distilled water, and set in front of the taster.
- For the first pair, label two cups with the appropriate codes.
- Pour approximately 0.1 mL from the designated flasks into the cups, pouring the one designated as first, first. Shake each up and down three times, remove the lid, and set in front of the taster.
- Allow the taster to taste from the two cups, using the distilled water to cleanse their palate between. They may go back and forth between the cups as they choose.
- Allow the taster to indicate the saltier by circling the corresponding code.
- Discard any remaining juice and repeat for the remaining pairs.

Subject:

Time:

	first	second
pair 1	440	118
pair 2	422	572
pair 3	542	915
pair 4	386	961
pair 5	854	201
pair 6	907	452

Consider the tea tasting experiment. What should be included in this procedure?

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## Assignment: Protocol for Data Collection in the Tea Experiment

Your assignment is to write down a protocol for data collection for the tea experiment discussed in class today. Here's how it will work.

1. Write the protocol. Due: February 7, 2014
  - As you write, be conscious of the different steps in the writing process (pre-writing, drafting, revising, and editing). Remember that these steps are not just “one-and-done,” but instead each step should be revisited several times as needed.
  - Feel free to discuss your ideas with others. However, I want all the writing you do to be your own. That is, you can share ideas, but do not share how you wrote these ideas down into sentences or paragraphs.
  - Your protocol should be double-spaced, and be one to two pages long. Preferably, print double-sided so that there is only one piece of paper.
2. Revise and comment on a classmate's protocol.
  - Bring a printed version to class on Fri Feb 7, when you will exchange protocols with a classmate of your choice. (You can do this earlier or outside of class if you'd like.)
  - Write your comments and suggested revisions directly on your classmate's protocol. Try to imagine yourself as someone who doesn't know anything about the protocol. Write your name at the bottom of the draft (*revised by X*) so I know who you were.
  - Return your comments to your classmate by Wed Feb 12.
3. Consider the comments from your classmate and make any changes you choose to. Print a version of your final draft.
4. Reflect on your writing process for this assignment.
  - Were you able to think of the steps separately? Was that helpful?
  - Comment on each step of the writing process. What worked for you? What was difficult?
  - This should be no more than one page long.
5. Turn in 1) the original draft, with the comments from your classmate, 2) your revised draft, and 3) your reflection on the writing process. Staple them together.

Final due date: Friday, February 14, 2014.

Name: \_\_\_\_\_

What was something interesting or new that you learned about protocols for data collection?

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