Introductory Chemistry Lab: Writing a Procedure

A procedure should be about a half a page long and should never be longer than a page. It should be a list of numbered steps that can be followed to carry out the lab.

Read the lab carefully before writing the procedure. It should be brief, simple, and easy to follow. The procedure should have less detail than the lab printout and it should not contain any paragraphs or complicated sentences.

Think of the procedure as a flowchart or a "to do" list.

Example:

The following (from Lab 2) describes determining the directional strength of paper towels.

Procedure as written in the lab printout:

Procedure

Part I. Determining the Dry-Strength of Paper Towels

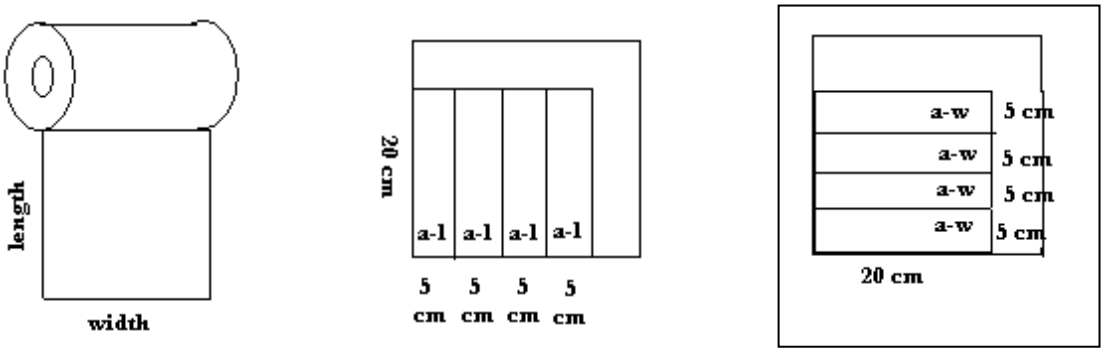
Background

Paper's long fibers run mostly in one direction, making the paper stronger in that direction. In this test you'll determine for each brand which direction is stronger: lengthwise or widthwise; and then determine which towel brand is the strongest overall.

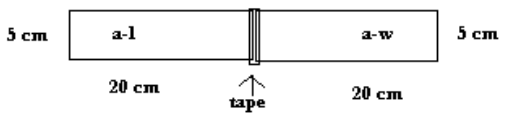
A. Directional Strength of each Brand

1. Cut one sheet of your first paper towel (brand A) into 4 lengthwise strips, 20 cm long by 5 cm wide. Code them A-L (for brand A, lengthwise direction). Be sure to indicate which actual brand corresponds to A.

2. Cut a second sheet of towel A into 4 widthwise strips, 20 cm long by 5 cm wide. Code these strips A-W (for brand A, widthwise direction),



3. Lay the 5 cm side of the lengthwise strip next to the 5 cm side of the widthwise strip, center a piece of tape over the pieces of towel and tape together. Flip over and tape again.



4. Pull the two free ends of the strips in opposite directions until one of the strips breaks. Record the direction that does not break in Table 1. Repeat and record the result for trial 2. If a different direction breaks in the second trial then pull a third time.

5. Repeat steps 1 through 4 for towel brands B and C. Be sure to indicate which actual brands correspond to B and C.

B. Overall Strength

1. Use the data from Table 2 to fill in the blanks* for the direction (L or W) of the brand tested in Table
2. For example, if the strongest direction for towel A is L then A-L is used for the tests in Table 3.
3. Tape the correct strips together for Test 1 (see step 3 of directional strength) and pull. Record the brand that does not break in table 3. Repeat the test and record the result. If the same brand does not break in the second trial, a third pull must be done.
4. Repeat step 2 for tests 2 and 3.
5. Clean up all of the paper towels when the tests are done.

Example lab notebook procedure:

Procedure

1. Obtain 3 types of paper towels. Label A, B, C.
2. Cut 4 lengthwise strips (20 cm x 5 cm) and 4 widthwise strips (20 cm x 5 cm) of A.
3. Tape the short sides of a length and width strip together. Pull. Record the direction that does not break. Repeat. Repeat a third time if the first two results are different.
4. Repeat steps 2 and 3 for B and C.
5. Tape the strongest direction of A to strongest direction of B. Pull. Record result. Repeat. Repeat a third time if first two results are different.
6. Repeat step 5 using B, C and A, C.
7. Determine strongest direction and towel.

Bottom Line:

Your lab hand-out contains detailed instructions for the procedure, data, calculations, and results.

The procedure you write in the note-book should be short and concise … a "to do" list.

Copying massive amounts of detail to your lab notebook is not learning and a waste of your time.