

## Writing Instructions



Celia M. Elliott  
Department of Physics  
*University of Illinois*  
[cm Elliott@illinois.edu](mailto:cm Elliott@illinois.edu)



© 2018 The Board of Trustees of the University of Illinois  
All rights reserved.  
All images have been purchased from istock.com unless  
otherwise noted.

**Over the course of your career,  
you'll write "instructions" constantly**

**Protocols for how to perform experiments or  
do data analysis**

**Methods sections for papers and talks**

**Work procedures for subordinates**

**Lesson plans for teaching**

**Management plans for projects**

***The purpose of written instructions  
is to get somebody to do something in  
exactly the right way***

## Instructions must include:

The “ingredients”

The equipment needed

A chronological, step-by-step explanation of what to do

Periodic built-in checks to assess status



## Instructions should emphasize:

Hazardous materials or conditions

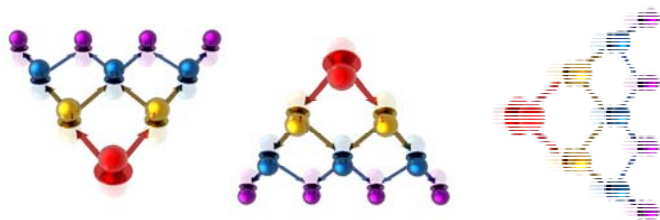
Likely mistakes



## Instructions should have an obvious logical structure

Chronology (first to last)

Priority (most important to least important)



## Each step should consist of *only one* discrete action

1. Place all dry ingredients in a medium bowl
2. Stir with a fork to mix ingredients thoroughly
3. Make a well in the center of the ingredients
4. Add the egg yolks, sugar, and vanilla to the well
5. On medium speed, beat with an electric mixer for 3 minutes
6. Gradually add the whipping cream while continuing to beat the mixture for an additional 5 minutes

## Point out possible failure points or likely mistakes



## Build in checkpoints so the user can assess progress and insure success



1. After adding the reagent, check the pH—it should be at least 5.2.
  2. After shaking, the fluid should be bright green (between 8 and 10 on the color scale).
- |   |   |   |   |   |   |    |    |    |
|---|---|---|---|---|---|----|----|----|
| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|----|----|----|
3. Before adding the solvent, be sure the fume hood is ON.
  4. Check to see that the water is turned off at the main before dismantling the toilet.

**Avoid ambiguous language—think about how readers will interpret your words**



**Advice from Celia's grandmother:  
"It's impossible to make anything foolproof,  
because fools are so ingenious."**

**No jargon! Use the simplest word that accurately and unambiguously conveys your meaning**



*Lost in Jargon*

**To recap:**

**Analyze the audience—what do they already know? What will confuse them?**

**Be sure to list all “ingredients” and all “equipment”**

**Anticipate likely mistakes and failure points**

**Include only one action per step**

**Write precisely and use familiar language**

**Remember IITMAFBFASI—but still *try***



[cm Elliott@illinois.edu](mailto:cm Elliott@illinois.edu)

<http://physics.illinois.edu/people/Celia/>