

NCW 2009  
Cleveland Section ACS

**Script Errata/Addendum Sheet**

**For use only with the pre-printed hard copy of the script.**

- p. 4:**
  - Replace bullet 2 with: “Introduce each experiment. The first experiment is actually a presenter-only demonstration of can ripping while the remaining 6 involve hands-on for the students either as group (i.e., one per table) or individual experiments. *All of the latter 6 require you to perform the experiment along with the students.*”
  - Delete bullet 3 and the Note below it.
- Checklists:** p. 9, first item:
  - Second to last sentence: delete “a copy of the Mystery Message”. This will be found at the students’ tables.
  - delete last sentence beginning with “Using ...”. This is done during the program.
- Supplies Required for Demonstration (p. 11):**
  - Add a sharp instrument of some sort (perhaps a pocket knife) to the list. This device may be needed to cut Tums tablets for Exp. 6.
  - Add several plastic trays for arranging plastic cups on, filling same and then distributing.
  - Change the volume of hot water required in item 8 from 1.5 cups ( $\approx$  350 mL) to 6 cups ( $\approx$  1.5 L) and the later reference to 2 cups to 6 cups.
  - Add the word “extra” before the first mention of the word “water” in item 9.
- Required Supplies (p. 12):** under **General**, item e: change 1 copy to 30 copies of the ACS photo permission form.
- Sign-In and Fingerprinting:**
  - p. 12:** The demonstrator might want to have one or two extra copies of the Mystery Message Puzzle available so that s/he and helper can have one on hand to walk students through the explanation on solving the puzzle if there are questions
- Add the following after the end of the text on **p. 18:**

**“When your setup is complete, you should have one set of experimental materials at each student’s place except the following—there should be one of each of these for each student table:**

  - 1 3 oz. cup marked “C” containing about 30 mL of  $\text{CuSO}_4$  for Experiment 2.
  - 1 set consisting of 1 strip of foil, 1 small magnifying glass, 1 paper towel and 1 50 mL vial containing 40 mL of  $\text{AgNO}_3$  for Experiment 3.
  - 1 set consisting of 1 10 mL vial marked “I” filled with  $\text{I}_2$  solution, 1 beral pipet and pair of child-size plastic gloves for Experiment 4.
  - 1 set consisting of 1 paper cup marked “Y” containing yeast and 1 unlabeled 10 oz. plastic cup containing warm water for Experiment 5.
  - 1 set consisting of 1 3 oz plastic cup marked “V” containing approximately 30 mL of vinegar and 1 3 oz plastic cup marked “A” containing alginate for Experiment 6.
- Demonstration:** none.

8. **Experiment 1 Magnetism Test:** none.
9. **Experiment 2 Cu Plating:**
  - a) **p. 16**, replace bullet 1 with the following: “Discard the 31 3-oz plastic cups. If you put 10 pennies into each of the 50 mL vials at home, remove the pennies and put them at the students’ places; otherwise, open the penny wrappers and distribute the pennies, 10 to a student. Put 20 mL of vinegar (1 tablespoon and 1 teaspoon full) into each of the 50 mL vials. Cap the vials to keep the odor minimized and distribute 1 vial to each student before the program starts. Keep the remainder of the vinegar for Experiment 6.”
  - b) **p. 28, Performance Details**, bullet 2: Delete the first two sentences. (The bullet now starts with the word “Carefully”.)
  - c) **p. 30, Conclusion**. The first sentence in the fourth paragraph about Cu is repeated twice. It should read "Remind them that they have already added Cu, element 29, and Fe, element 26."
10. **Experiment 3 Silver Deposition:** none.
11. **Experiment 4 Starch Test using I<sub>2</sub>:**
  - a) **p. 16, Setup**, item 6: Add the following sentence: “You also might want to create a small indentation (like a mini volcano) in the pile of powders to contain the I<sub>2</sub> droplets—otherwise, they have a tendency to run off.”
  - b) **p. 17, under "At each table place the following."** One paper plate containing test substances needs to be placed at each student's place.
  - c) **p. 35, Introduce the Experiment**. Iodine turns the solution purple, not blue.
12. **Experiment 5 H<sub>2</sub>O<sub>2</sub> Decomposition:**
  - a) Change all references to pints of H<sub>2</sub>O<sub>2</sub> to quarts of H<sub>2</sub>O<sub>2</sub>. (We ordered pint bottles and received quarts—take the unused balance home.) On p. 14 note that the quart bottle of H<sub>2</sub>O<sub>2</sub> was packed separately along with the quart bottle of vinegar (for Exps. 2 & 6).
  - b) **pp. 13-4:**
    1. **first bullet:** some kits contain a single bag of dry yeast (a cream colored powder) instead of individual packets.
    2. **change bullets 2 and 3 to read:**
      2. 1 baggie marked “D” containing a sealed beral pipet filled with dish detergent.
      3. 1 unmarked baggie containing another sealed beral pipet filled with food coloring.
    3. Delete bullet 6.
  - c) **p. 17:**
    1. Change bullets 2 and 3 to read as follows:
    2. Remove the disposable pipet containing detergent from the baggie marked “D”. Holding the pipet vertically and upside down, carefully snip off the tip with your scissors. Add 1-2 drops of detergent to each of the cups labeled “P” containing the peroxide solution.
    3. Holding the other pipet containing the food coloring vertically and upside down, again snip off the tip with your scissors. Add 2-3 drops of food coloring to each of the cups labeled “P” containing the peroxide/soap solution.
  2. Bullet 4: Change this sentence to read “Place 150 ml (≈3/4 cup) of hot water...”

3. Bullet 5. Since some kits contain the yeast in a plastic bag (not individual packets), change this bullet to read: "Empty one package of yeast or put approx. 2 teaspoons of dried yeast from the baggie marked "Y" into each of 7 paper cups labeled "Y".
  - d) **p. 37, Experiment 5, Performance Details.** The first sentence in the third bullet should read: "Have the students at each table pass around their 10 oz. plastic cup containing the water-yeast mixture. Have each student put 1 teaspoon of the yeast mixture from the large plastic cup into their individual 3 oz cup marked "P".
13. **Experiment 6 *The Fate of CaCO<sub>3</sub>*:**
- a. **p. 14, bullet 2:** some kits have complete Tums tablets which will have to be cut up beforehand (preferably at home).
  - b. **p. 18, Setup,** 4<sup>th</sup> major bullet under *At each student's place ...*: Replace the sentence beginning with "(Divvy..." with "divvy up the egg shell pieces supplied evenly and try to position them so that the outer surface is "up". (The inner surface may still have traces of the egg's membrane material which can interfere with the reaction.)"
  - c. **p. 40, Performance Details, first bullet.** Add the following after the end of the sentence in the parentheses: "During the Dress Rehearsal we found this difficult to do. It isn't absolutely necessary for the students to crush the Tums and chalk pieces. They'll simply get better results if they do."
  - d. **p. 41, Additional Information...**, fourth bullet starting with "Tums<sup>TM</sup>":
    - a) first sentence: change "calcium supplements" to "egg shells".
    - b) last sentence: delete the words "the Ca supplement and".
14. **p. 44, Clean up:**
- a. delete bullets 1 ("Empty..."), 2 ("Combine..."), 4 ("Complete..."), 5 ("Collect..."), and 6 ("All...").
  - b. In their place insert the file *Demonstrator's Clean-Up Procedures* which will also be found on our web site at [http://www.csuohio.edu/sciences/dept/cleveland\\_acs/NCW/](http://www.csuohio.edu/sciences/dept/cleveland_acs/NCW/).