

Acids, Bases, and the pH Scale Class Preparation

Before class starts, you will need the following items prepared and near you.

Items in kit	Items not in kit
9-10 pieces of litmus paper	2 t. of various test liquids: lemon juice, vinegar, laundry detergent or dish soap, baking soda, Windex or other ammonia-based cleaner, water, bleach (with adult supervision)
safety goggles	1/2 teaspoon
cabbage juice indicator powder	14 small clear or white cups or bowls
plastic bowl	paper towels/old towel
plastic teaspoon	worksheet (print from website)
	3/4 c. water in large cup
	small cup of water for rinsing spoon

Note: If you have two children attending class, they do not each need a set of test solutions. Make one set of test solution cups using 3 teaspoons of test solution per cup. It's up to you if you want each of your children to have a set of 7 cups with cabbage juice indicator. I know it's a lot of cups.

Preparation Instructions:

1. Gather all the items listed above and put them where you will be sitting for the class.
2. Print Acids, Bases, and the pH Scale worksheet from my website (<http://www.handsonsciencefun.com/chem-videosworksheets.html>).
3. Put on safety goggles.
4. **You must rinse off the plastic teaspoon between test chemicals to avoid cross-contamination.** Using the plastic teaspoon, put the following test solutions in 7 clear or white cups or bowls (one solution per cup/bowl). Label the cup with the test solution name or set the cup on a piece of paper with the test solution names written on it.
 - 2 teaspoons water
 - 2 teaspoons vinegar
 - ½ teaspoon dish soap or laundry soap with 2 teaspoons water, stir
 - ½ teaspoon baking soda with 2 teaspoons water, stir
 - 2 teaspoon lemon juice or lime juice

Optional (you'll need 2 more cups/bowls per optional test solution):

- 2 teaspoons milk
 - 2 teaspoons window cleaner
 - 2 teaspoons lemon-lime soda
 - test solution of your choice
 - ½ teaspoon bleach in 2 teaspoons water (PARENT SUPERVISION REQUIRED), stir
5. Make cabbage juice indicator by adding all the cabbage juice powder to ¾ cup of water. Stir.