

Cabbage Juice CW - pH Scales & Acid Base indicators. name: _____

Objective: to show the various colors that a natural acid base indicator can change to when different amounts of acid or base are added to it. Your job is to show 9 different colors.

Procedure: get a test tube rack and 9 test tubes of the same size. Make sure that they are CLEAN. Wash them out with a brush, wet is okay.
We are using weak HCl acid and weak NaOH base. Be careful anyway!!!

Fill each tube about half way with cabbage juice provided by the teacher. Put all tubes into the rack. To the center tube (#5) , add a few drops of water. We'll add ACID to the left tubes (#1-4), and the BASE to the right tubes (#6-9).

Add 2 drops of ACID to tube #4. Shake with thumb over top (it's safe). If color changes, good. If it doesn't, add one more drop of acid and shake again. When color changes, add the same amount of acid to the next tube PLUS 1-2 more drops. Shake and look. We are looking to get all different colors.

Add 2 drops of BASE to tube #6. Same process as with the acids, except with the base.

Continue adding base to each tube until you have 9 tubes of 9 different colors.

If you have put "TOO MUCH" acid into a tube, you can add a drop or two of base, to neutralize some of that acid, then continue along.

If you put "TOO MUCH" base into a tube, you can add a drop or two of acid, to neutralize some of that base, then continue along.

DO:

1. When you have all 9 colors in your tubes, look at them & write a statement about how cabbage juice changes colors with acids, bases, & neutrals.
2. Using colored pencils, color the pH scale below (like we did in class yesterday), & draw in colors for the various amounts of acid and base for the cabbage juice indicator. After drawing, wash out all tubes down drain, set to dry UPSIDE DOWN in racks.

The colors represent the changes in the color of CABBAGE JUICE with the addition of HCl (acid) and NaOH (base). Cabbage juice is a natural acid base indicator.
My six chemical acid base indicators are on Table M.

