Name_____

pH Measurements Using Indicators Worksheet

Data Table A. Universal Indicator

pH	2	4	6	8	10	12
Color						

Data Table B. Phenolphthalein

pH	2	4	6	8	10	12
Color						

Transition:_____

Data Table C. Methyl Orange

pH	2	4	6	8	10	12
Color						

Transition:_____

Data Table D. Bromthymol Blue

pH	2	4	6	8	10	12
Color						

Transition:_____

Data Table E. Unknowns

Unknown Letter			
pH Color			
pH Number			
Red Cabbage Indicator Color Prediction			
Red Cabbage Test Observations			

Post-Lab Questions

1. Predict the colors for the buffers, if a red cabbage indicator were used. Write the predictions in the table below:

pH	Red Cabbage Indicator					
	2	**4**	**6**	**8**	**10**	**12**
Color						

2. How can phenolphthalein be used to tell whether a solution is an acid or a base? Be specific.

3. A colorless solution is tested with bromthymol blue, methyl orange, and phenolphthalein. It is colorless in phenol-phthalein, yellow in bromthymol blue, and reddish orange in methyl orange. What is the pH of the solution?

4. Construct a table to summarize the properties of the unknown solutions observed in Part E. Include the following in the table.

   a. An estimate of the pH value of each unknown

   b. Whether the solution is acidic or basic

5. Use the data in the table from question 4 to complete the following:

   a. Arrange the solutions in order from least acidic to most acidic.

   b. Arrange the solutions in order from least basic to most basic.