

Name: _____

Blk: _____ Date: _____

Chemistry 12
ACID BASE PART II Lesson # 17
INDICATORS CONTINUED

For today's lesson we first need to review our elementary school knowledge of COLOURS

1. To make Green you mix:

2. To make Orange you mix:

3. To make Purple you mix:

4. To make Brown you mix:

A **UNIVERSAL INDICATOR** is an indicator solution that changes colour several times over a range of pH values.

Example 1. Identify the colour and pH range that a UNIVERSAL INDICATOR made up of Methyl Orange, Bromothymol Blue and Phenolphthalein would produce.

Ind	pKa	HIn	In ⁻

Ind \ PH				

Example 2. When a unknown substance was tested with a mixed indicator of Methyl Red, Phenol Red and Phenolphthalein the solution was YELLOW Give the pH range for the unknown substance.

Ind	pKa	HIn	In ⁻

PH Ind				

Example 3. A mixture of Thymol Blue and Alizarin Yellow is put in a solution with $[OH^-] = 1.0 \times 10^{-4} M$. Use your table of Acid-Base indicators to determine the colour of this mixed indicator.

Ind	pKa	HIn	In ⁻

PH Ind			

