

Name: _____

Block: _____

Activity 5-1B, pages 230 - 231 in BC Science 10

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Properties of Acids and Bases

Purpose: _____

Materials: refer to the pages 230 in BC Science 10

Procedure: refer to the pages 230 - 231 in BC Science 10

Observations: (6 marks)

Table 1: Acid-Base Properties of four unknown solutions

Magnesium ribbon	Mg and Indicators					Unknown Solutions
	Red Litmus	Blue Litmus	Bromothymol Blue	Indigo Carmine	Methyl Orange	
						A
						B
						C
						D

Analyze, pg. 231

1. List the solutions in order from most acidic to least acidic (most basic).

Most acidic: _____

2. Which solution do you think was neutral? Explain how you know.

3. You used two bases. Explain how you know which solution was more alkaline (more basic).

4. How can magnesium metal be used to distinguish between an acid and a base?

Conclude and Apply, pg. 231

1. (a) What colour would each of the five indicators be in a solution that is pH 3?

Red litmus _____ Bromothymol Blue _____ Indigo carmine _____
Blue litmus _____ Methyl orange _____

(b) What colour would each of the five indicators be in a solution that is pH 10?

Red litmus _____ Bromothymol Blue _____ Indigo carmine _____
Blue litmus _____ Methyl orange _____

2. Suppose you are asked to put together a test kit to determine whether water taken from a factory waste drain is acidic, basic, or neutral. Your kit can contain only three tests. Which tests would your kit contain? Explain.

3. Refer to the photo of the lichen *Rocella tinctoria* on page 231, from which litmus is extracted. If this lichen were ground up and then soaked in vinegar, what colour would the solution likely be?

4. What is the colour of seawater that has had bromothymol blue added to it?

5. Consider the colour-coded map of the world's oceans shown on page 231.

a) Which regions of the world's oceans appear to be most affected by the drop in pH level?

b) Which regions are the least affected?

Conclusion: