**Acids and Bases Lab**

**Objective**: To determine the relative acidity (or alkalinity) of four unknown solutions

**Data**:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Magnesium | Red Litmus | Blue Litmus | Bromothymol Blue | Indigo Carmine | Methyl Orange |  |
|  |  |  |  |  |  | Solution A |
|  |  |  |  |  |  | Solution B |
|  |  |  |  |  |  | Solution C |
|  |  |  |  |  |  | Solution D |

**Analyze**

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

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

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

1. 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.