## ESTEME STEM Squad Acid-Base Mystery Solutions

#### **Terms:**

pH- a measure of how basic or acidic something is
indicator- a substance that changes color to indicate its pH
H<sup>+</sup> hydronium, the molecule created by acids in water
OH- hydroxide, the molecule created by bases in water
Neutralization- bringing a substance to a neutral pH of 7

### Acid

Common traits: tasting sour, corrosive

When you put acids into water you build up  $\textbf{H}^{\star}$  or hydronium

Common Acids: soft drinks, citrus, vinegar

#### Base

Common traits: slippery, bitter-tasting

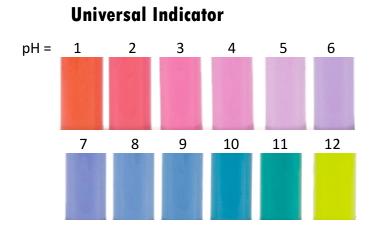
When you put bases into water you build up OH<sup>-</sup> or hydroxide

Common Bases: bleach, soaps, toothpaste

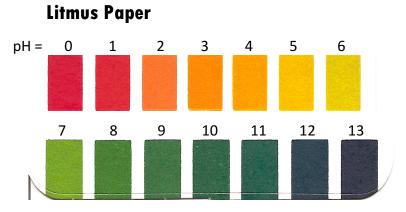
## The pH Scale

+			Neutral								Basic				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

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## Indicators



### **Possible Unknown Acids and Bases**

-	Acidic							Neutral				Basic				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
	0.0 Battery Acid	1.0 Stomach Acid	2.0 Lemon Juice	<b>3.0</b> Vinegar	<b>3.5</b> Sprite	<b>4.5</b> Mouthwash <b>5.0</b> Pickle Juice	6.0 Polish remover	Polish remo Water		<b>8.5</b> Dish soap		<b>11.0</b> Windex	<b>12.0</b> Bleach	1 <b>3 5</b> 1 vo		