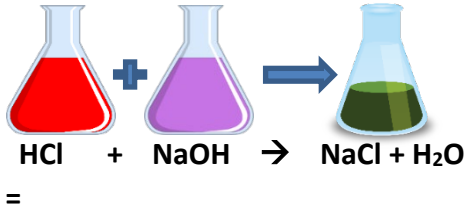


TITRATIONS

When an acid and a base come together, _____ occurs. The resulting products are _____ and a _____:



An _____ is used to tell when a titration has _____. This is a substance that _____ in response to a pH change. The point at which the _____ changes color is known as the _____.

- Step 1:
- Step 2:
- Step 3:
- Done:

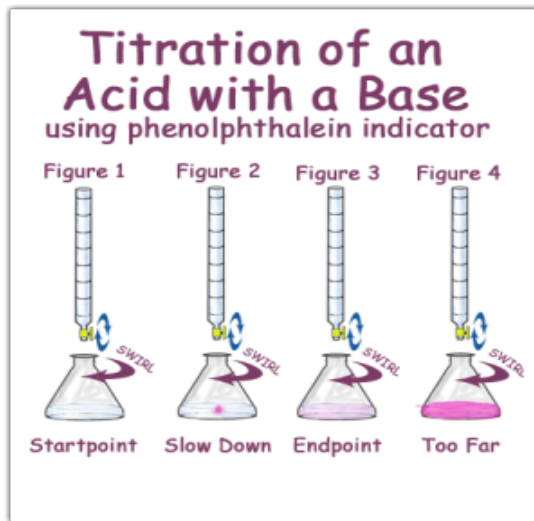
Vocabulary of Titrations:

Buret -

Titrant -

Analyte -

Indicator -



==

Titration Setup

Indicator	Color Change	pH Range
Thymol blue	Red to Yellow	1.2-2.8
	Yellow to Blue	8.0-9.6
Methyl orange	Red to Yellow	3.2-4.4
Methyl red	Red to Yellow	4.8-6.0
Bromothymol blue	Yellow to Blue	6.0-7.6
Phenolphthalein	Colorless to Pink	8.2-10.0

pH Range for Color Change

Step 1 Step 2 Step 3 Done!

$$M_A V_A = M_B V_B$$

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pH Range for Color Change

Step 1 Step 2 Step 3 Done!

$$M_A V_A = M_B V_B$$

Plot the titration curves for the following data. (Plot volume of base on the x-axis and pH on the y-axis). Then, label the following on the graph:

- Title, X axis and Y axis
- the equivalence points
- a line that shows what the pH of the acid is
- a line that shows what the pH of the base is

Answer the following questions:

	Data Set 1	Data Set 2
What is the pH at neutralization?		
If the molarity of the base added was 0.20 M, and the volume of the acid in the flask was 10 mL, what was the concentration of the acid?	Show Work:	Show Work:
Was this acid strong or weak? Why do you think that?	<input type="checkbox"/> Strong Reasoning: <input type="checkbox"/> Weak	<input type="checkbox"/> Strong Reasoning: <input type="checkbox"/> Weak

	Data Set 1	Data Set 2
Volume of Base (mL)	pH	pH
0.0	3.0	1.00
2.00	3.2	1.0
4.00	3.5	1.1
6.00	3.8	1.2
8.00	4	1.2
10.00	4.2	1.3
12.00	4.5	1.3
14.00	4.8	1.4
16.00	5.2	1.5
17.00	5.8	1.8
18.00	6.6	2
18.50	7.5	2.3

	Data Set 1	Data Set 2
Volume of Base (mL)	pH	pH
19.00	8.8	2.6
19.50	10	3.0
20.00	10.9	7.0
20.50	11.6	11.6
21.00	12	12.0
21.50	12.2	12.2
22.50	12.4	12.6

Tape graphs as stacked flaps on top of this data

