

- An indicator was used to test a water solution with a pH of 12. Which indicator color would be observed?
 - colorless with litmus
 - red with litmus
 - colorless with phenolphthalein
 - pink with phenolphthalein
- In a solution, litmus is blue. The pH of the solution could be
 - 10
 - 2
 - 3
 - 4
- One sample of a solution with a pH of 10 is tested with phenolphthalein and another sample of this solution is tested with litmus. In this solution the color of the litmus is
 - blue and the phenolphthalein is pink
 - red and the phenolphthalein is pink
 - blue and the phenolphthalein is colorless
 - red and the phenolphthalein is colorless
- Which aqueous solution will turn red litmus blue?
 - $\text{NH}_3(\text{aq})$
 - $\text{HNO}_3(\text{aq})$
 - $\text{CO}_2(\text{aq})$
 - $\text{H}_2\text{SO}_4(\text{aq})$
- Which compound, in a water solution, would turn red litmus paper blue?
 - HNO_3
 - $\text{C}_2\text{H}_5\text{OH}$
 - $\text{HC}_2\text{H}_3\text{O}_2$
 - NaOH
- Which aqueous solution would turn blue litmus red?
 - $\text{HCl}(\text{aq})$
 - $\text{NaCl}(\text{aq})$
 - $\text{K}_2\text{CO}_3(\text{aq})$
 - $\text{NaOH}(\text{aq})$
- Which solution will change litmus from blue to red?
 - $\text{NaOH}(\text{aq})$
 - $\text{NH}_4\text{OH}(\text{aq})$
 - $\text{CH}_3\text{OH}(\text{aq})$
 - $\text{CH}_3\text{COOH}(\text{aq})$
- Which is a characteristic of an aqueous solution of HNO_3 ?
 - It conducts electricity.
 - It forms OH^- ions.
 - It turns litmus blue.
 - It turns phenolphthalein pink.
- In a 0.01 M solution of HCl , litmus will be
 - blue and phenolphthalein will be colorless
 - blue and phenolphthalein will be pink
 - red and phenolphthalein will be colorless
 - red and phenolphthalein will be pink
- Phenolphthalein has a pink color in a solution which has a pH of
 - 1
 - 5
 - 7
 - 11

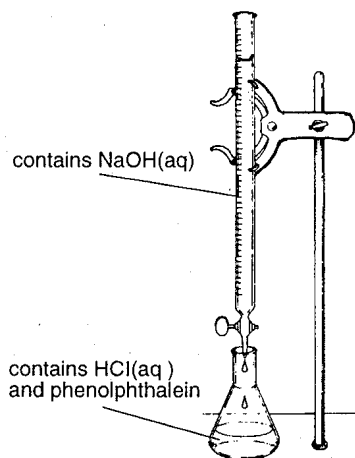
11. A student was given four unknown solutions. Each solution was checked for conductivity and tested with phenolphthalein. The results are shown in the data table below.

Solution	Conductivity	Color with Phenolphthalein
<i>A</i>	Good	Colorless
<i>B</i>	Poor	Colorless
<i>C</i>	Good	Pink
<i>D</i>	Poor	Pink

Based on the data table, which unknown solution could be 0.1 M NaOH?

- A) *A* B) *B* C) *C* D) *D*

12. The diagram below shows NaOH(aq) being added to HCl(aq). A few drops of phenolphthalein were added to the flask before the titration was started.



The endpoint in this titration is reached when the solution in the flask appears

- A) pink B) colorless
 C) blue D) yellow
13. What color is phenolphthalein in a solution that has a pH of 9?
- A) blue B) pink
 C) white D) colorless
14. Water containing phenolphthalein will change from colorless to pink with the addition of
- A) HOH B) HCl C) KOH D) KCl

15. In a solution with a pH of 3.0, the color of

- A) litmus is red
 B) litmus is blue
 C) phenolphthalein is red
 D) phenolphthalein is blue
 E) methyl orange is yellow

16. The table below shows the color of an indicator in specific pH ranges.

Color	pH Range
Red	1-4
Orange	5-6
Green	6-7
Blue	8-10
Violet	11-14

If this indicator is used when titrating an unknown strong base by adding a strong acid, the color of the indicator will change from

- A) blue to green B) green to blue
 C) orange to green D) green to orange
17. Which indicator is yellow in a solution with a pH of 9.8?
- A) methyl orange B) bromthymol blue
 C) bromcresol green D) thymol blue

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18. Which indicator, when added to a solution, changes color from yellow to blue as the pH of the solution is changed from 5.5 to 8.0?
- A) bromcresol green B) bromthymol blue
C) litmus D) methyl orange
19. Which indicator is blue in a solution that has a pH of 5.6?
- A) bromcresol green B) bromthymol blue
C) methyl orange D) thymol blue
20. Based on the results of testing colorless solutions with indicators, which solution is most acidic?
- A) a solution in which bromthymol blue is blue
B) a solution in which bromcresol green is blue
C) a solution in which phenolphthalein is pink
D) a solution in which methyl orange is red
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