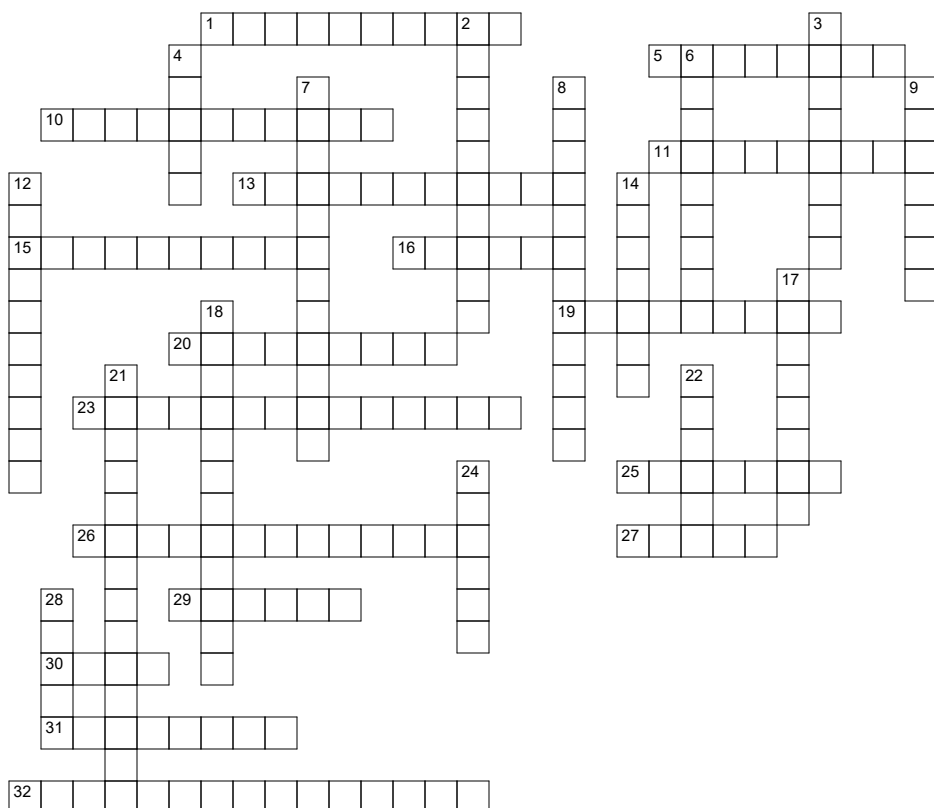


## Acids and Bases



### Across

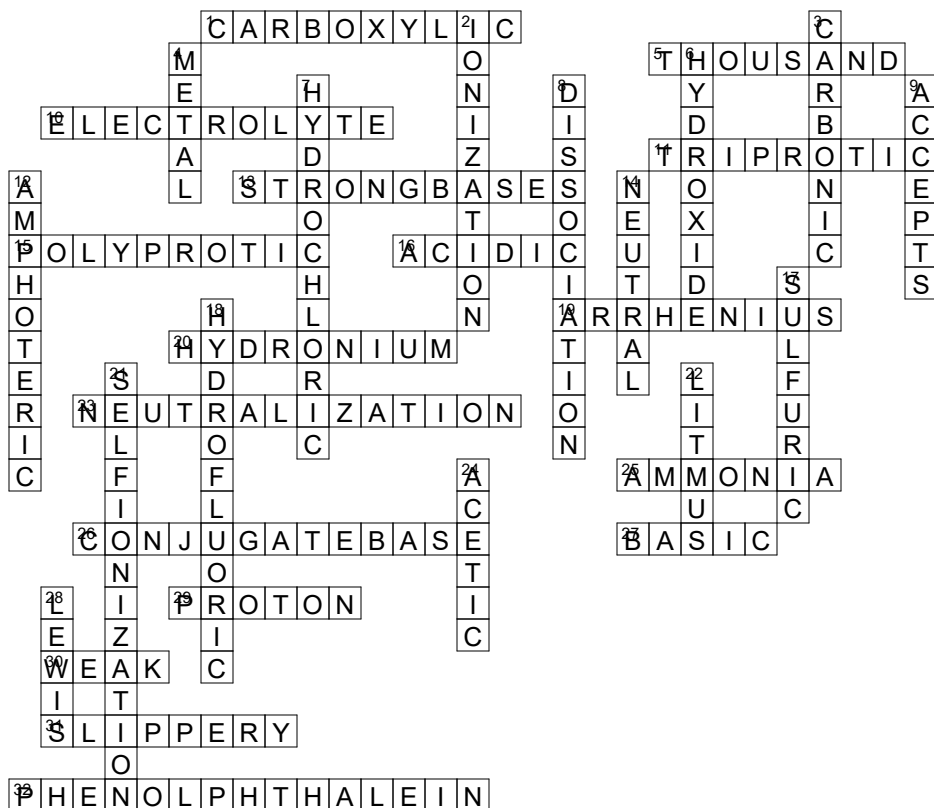
- |  |  |
|--|--|
| <p>1. Organic acids with a <math>\text{-COOH}</math> group are called ___ acids</p> <p>5. A solution with <math>\text{pH} = 3.5</math> has one ___ times the <math>[\text{H}_3\text{O}^+]</math> as a solution with <math>\text{pH} = 6.5</math></p> <p>10. An ___ is a substance which produces ions in water, allowing the solution to conduct electricity</p> <p>11. Phosphoric acid is an example of a ___ acid</p> <p>13. <math>\text{KOH}</math>, <math>\text{NaOH}</math>, <math>\text{LiOH}</math>, <math>\text{Ca(OH)}_2</math> etc ... are examples of ___</p> <p>15. Acids with more than one hydrogen ion to donate are ___</p> <p>16. When non-metal oxides dissolve in water, they produce ___ solutions</p> <p>19. ___ defined acids as substances that produce hydrogen ions in water</p> <p>20. In water, hydrogen ions are bonded to water molecules, forming this complex ion</p> | <p>23. A ___ reaction is usually a double replacement reaction between acids and bases</p> <p>25. The most common weak base</p> <p>26. The fluoride ion is the ___ of <math>\text{HF(aq)}</math></p> <p>27. Sodium acetate produces a ___ solution when it dissolves in water</p> <p>29. A hydrogen cation (<math>\text{H}^+</math>) is usually just a ___</p> <p>30. Acids with small <math>K_a</math> values are ___</p> <p>31. Bases feel ___ on the skin</p> <p>32. This indicator is colourless in acids and pink in most bases</p> |
|--|--|

### Down

2. When acids, bases or salts dissolve in water, they undergo \_\_\_
3. \_\_\_ acid is produced when carbon dioxide reacts with water
4. \_\_\_ oxides like sodium oxide, lithium oxide etc ... dissolve in water and make basic solutions
6. A basic solution is one where the \_\_\_ concentration is greater than the hydronium concentration
7. A strong acid, \_\_\_ acid is found in the stomach to help digest food
8. Sometimes used interchangeably with "ionization"
9. According to Bronsted & Lowry, a base is a substance that \_\_\_ hydrogen ions
12. An \_\_\_ substance is able to donate or accept hydrogen ions - it can be either an acid or a base.
14. A \_\_\_ solution has equal concentrations of hydroxide and hydronium
17. \_\_\_ acid is a strong acid found in car batteries
18. \_\_\_ acid is a weak acid used by artists to etch glass
21. Water molecules reacting with each other, donating and accepting hydrogen ions, is called \_\_\_
22. This indicator is pink/red in acids and blue in bases - it changes colour at  $\text{pH} 7$
24. White vinegar is just a dilute solution of \_\_\_ acid
28. A \_\_\_ acid accepts electrons in a chemical reaction



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5. A solution with pH = 3.5 has one \_\_\_\_ times the  $[H_3O^+]$  as a solution with pH = 6.5
10. An \_\_\_\_ is a substance which produces ions in water, allowing the solution to conduct electricity
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23. A \_\_\_\_ reaction is usually a double replacement reaction between acids and bases
25. The most common weak base
26. The fluoride ion is the \_\_\_\_ of HF(aq)
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