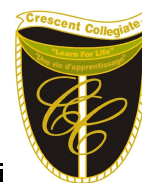
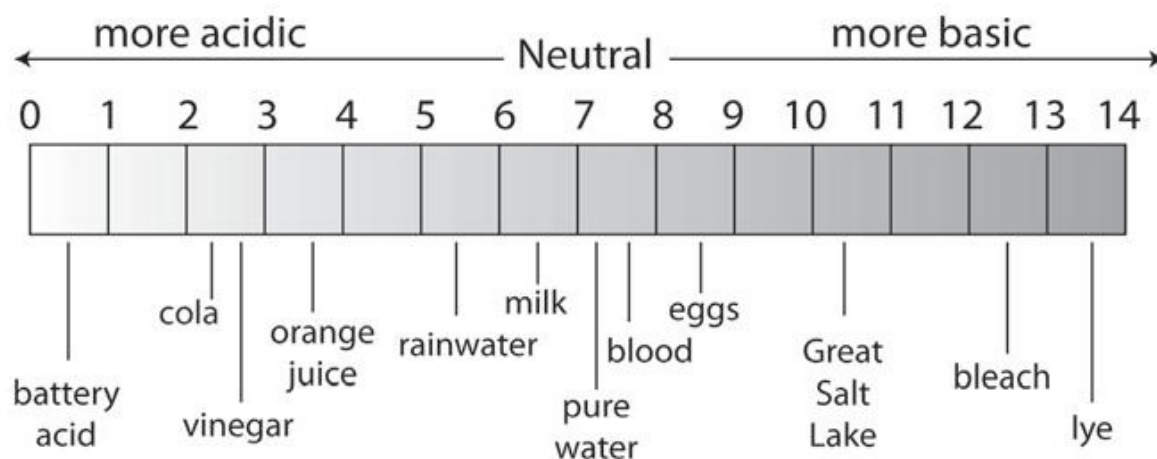


Science 1206
Unit 2: Chemical Reactions
Worksheet 10: Acids and Bases



pH scale measures how acidic or basic a solution. A scale with values ranging from below 0 to 14 is used to measure pH.



Property	Acid	Base
Production of Ions	have a lot of hydrogen ions (H ⁺)	have a lot of hydroxide ions (OH ⁻).
Taste	sour	bitter
pH	pH below 7	pH above 7
Touch (Caution: Never touch any chemical with your bare skin)	Many acids will burn your skin	Bases feel slippery Strong bases attack fats
Indicator test	turns blue litmus paper red	turns red litmus paper blue
Example	Lemons Car battery acid	Milk Soap

1. A _____ is what scientists use to measure how basic or acidic a liquid is. It ranges from values very close to 0 through 14.
 - (A) Ruler
 - (B) Beaker
 - (C) Pipette
 - (D) pH Scale
2. What is a solution that has an excess of H^+ (hydrogen) ions?
 - (A) pH
 - (B) Acid
 - (C) Neutral
 - (D) Base
3. What is a solution that has an excess of OH^- ions?
 - (A) pH
 - (B) Acid
 - (C) Neutral
 - (D) Base
4. Acids are found on the pH scale between the numbers:
 - (A) 0
 - (B) 0-7
 - (C) 7
 - (D) 7-14
5. A solution that is _____ has a pH of 7.
 - (A) Acid
 - (B) Basic
 - (C) Neutral
 - (D) None of the above
6. The pH scale is actually measuring the number of H^+ ions in a solution. If there are a lot of H^+ ions, the pH is very _____.
 - (A) High
 - (B) Low
 - (C) Neutral
 - (D) Neither
7. Distilled water is _____.
 - (A) Acidic
 - (B) Basic
 - (C) Neutral
 - (D) Neither
8. An acidic solution could have a pH of
 - (A) 7
 - (B) 10
 - (C) 3
 - (D) 14

9. A pH scale reading of 13 indicates a _____.
- (A) Strong base
 - (B) Weak acid
 - (C) Strong acid
 - (D) Weak base
10. Which one of the following is characteristic of a base?
- (A) Produces H_3O^+ in water
 - (B) Has a sour taste
 - (C) Has a slippery, soapy feel
 - (D) Turns blue litmus red
11. Which of the following values of pH will change red litmus paper blue?
- (A) 6.2
 - (B) 7.0
 - (C) 3.1
 - (D) 8.5
12. Which of the following values of pH will change blue litmus paper red?
- (A) 7.0
 - (B) 12.6
 - (C) 3.4
 - (D) 8.2
13. How would an acid taste ?
- (A) Sour
 - (B) Bitter
 - (C) Salty
 - (D) Sweet
14. Which ONE of the following is NOT a property of an acid?
- (A) It reacts with metals to produce hydrogen gas
 - (B) Its pH is greater than 7
 - (C) It has a sour taste
 - (D) It turns litmus red
15. Which best describes a molecular acid?
- (A) Dissociation of the compound produces H^+
 - (B) Dissociation of the compound produces OH^-
 - (C) Forms a nonelectrolytic solution
 - (D) The compound does not dissolve in water
16. Which of the following is an acid?
- (A) $\text{HCl}(\text{s})$
 - (B) $\text{HCl}(\text{l})$
 - (C) $\text{HCl}(\text{g})$
 - (D) $\text{HCl}(\text{aq})$
17. Which of the following is an acid?
- (A) $\text{NaOH}(\text{aq})$
 - (B) $\text{H}_3\text{BO}_3(\text{aq})$
 - (C) $\text{NaCl}(\text{aq})$
 - (D) $\text{HCl}(\text{g})$

18. Which one of the following is the correct chemical formula for hydrochloric acid?
- (A) H_2SO_4
 - (B) NaCl
 - (C) HCl
 - (D) NO_3
19. Which best describes a solution with a pH equal to 7?
- (A) Neutral solution
 - (B) Strong acid solution
 - (C) Weak base solution
 - (D) Strong base solution
20. Which one of the following substances should you rub to the sting of a wasp to neutralise it?
- (A) Toothpaste
 - (B) Baking soda
 - (C) Vinegar
 - (D) Solution of washing soda