Do not write on this paper!

Focused Read: Acids, Bases and pH

#

Science Spectrum Book Pages 254-279

Do not write on this paper. Put your answers on SENBP. Write in complete sentences.

Pages 254-263

- 1. What is an **acid**?
- 2. What is an **indicator**? What is it used for? Give an example of a substance that is used as an indicator.
- 3. Describe the properties of an acid.
- 4. What determines if something is a **strong acid** verses a **weak acid**?
- 5. There are two reactions illustrated on page 257. What are they trying to explain?
- 6. Look at **Table 1**. Which of these acids would you use around the house? Why?
- 7. What is a **base**?
- 8. Describe the properties of a base.
- 9. Are all bases the same? If not, what makes them different?
- 10. Look at **Table 2**. Which of these bases would you use around the house? Why?
- 11. What does the **pH** of a solution indicate? What can the pH of a solution tell you?
- 12. The term pH is French in origin. What French word does it come from and what does it mean?
- Using Figure 6, classify the following substances as acidic, basic, or neutral.
 a) Soapy solution pH = 9
 b) sour liquid pH = 5
 c) vinegar pH = 2.8
 d) A solution with 4 times as many hydronium ions as hydroxide.
 e) Egg whites pH=8

Pages 264-268

- 14. What is a **neutralization reaction**?
- 15. What is the end result (products) of a neutralization reaction? What is a salt?
- 16. Explain why all reactions between an acid and a base do not result in a neutral solution.
- 17. What is **titration**? What is the equivalence point?
- 18. Look at **Table 3**. Which of these salts do you use around the house? What brand of product would you find it in? How are salts useful?

Pages 269-274

- 19. Describe how **soap** can dissolve in both oil and water. How does soap work with water to remove oily dirt?
- 20. Why are **detergents** used to wash clothes and dishes instead of soap?
- 21. The term "hard water" means what?
- 22. What is responsible for the "scum", deposits, left on sinks, bathtubs and showers?
- 23. Why do window cleaners contain ammonia?
- 24. Why should you **never** mix a household solution that has bleach with a household solution that has ammonia? How about vinegar and bleach?
- 25. Most cleanser claim to "clean and disinfect." What do they mean by this?
- 26. How does household bleach work on stains?
- 27. How do antacids work?
- 28. Why do apples turn yellowish brown after you cut them open? Can you prevent this?

Pages 275-278

- 29. Complete problems #1-6 on pg 275.
- 30. Complete problem #35 on pg 278.