

IV. Practice Questions

Section 5.1

Compounds are classified in different ways: Acids and Bases

Circle the letter of the best answer. Use the charts on page 3 of your Data Pages to help you answer the questions.

1. What is the pH of an acidic substance?
 - A. between 4 and 8
 - B. greater than 7
 - C. less than 7
 - D. equal to 7
2. A sample of grapes is crushed, and the pH is tested using three different indicators. Which set of colours is correct for the grapes?

	Methyl Orange	Bromothymol Blue	Indigo Carmine
I.	yellow	yellow	yellow
II.	red	yellow	blue
III.	red	blue	blue
IV.	yellow	blue	yellow

- A. I
 - B. II
 - C. III
 - D. IV
3. You have a sample to test in a lab. The sample looks like milk. Choose the two best indicators for testing if the sample is in the same pH range as milk.
 - A. litmus and phenolphthalein
 - B. methyl orange and methyl red
 - C. methyl red and bromothymol blue
 - D. phenolphthalein and indigo carmine
 4. A property of acids is that they react with metals. If you placed a cut lemon and a raw egg on two spots on bare metal, which of the following would you observe?
 - A. Only the egg would react.
 - B. Only the lemon would react.
 - C. Both the lemon and the egg would react.
 - D. Neither the lemon nor the egg would react.
 5. What kind of substance feels slippery, turns red litmus blue, and has a pH > 7?
 - A. a base, such as NaOH
 - B. an acid, such as HCl
 - C. a salt, such as MgCl₂
 - D. a neutral substance, such as HNO₃
 6. A solution has a pH of 11. Acid is added until pH = 5. Which indicator would be a good choice to know when the solution has reached pH = 5?
 - A. methyl red
 - B. methyl orange
 - C. phenolphthalein
 - D. indigo carmine
 7. A substance used in producing plastic is HCl. It is a(n) ___ **and** is named ___.
 - A. salt, hydrogen chlorite
 - B. acid, hydrogen chlorate
 - C. base, hydrogen chloride
 - D. acid, hydrogen chloride

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8. Which of the following is the correct formula for sulfuric acid?

- A. H_2S
- B. HSO_4
- C. H_2SO_3
- D. H_2SO_4

9. Perchloric acid is used in manufacturing explosives and speeding up chemical reactions. What is the formula for perchloric acid?

- A. HF
- B. HBr
- C. HClO_4
- D. H_2Pe_3

10. A sample of bleach was tested with bromothymol blue to determine its pH.

What colour will it be, **and** what does the colour tell you about the pH of bleach?

- A. blue, $\text{pH} > 7$
- B. blue, $\text{pH} = 12$
- C. yellow, $\text{pH} < 7$
- D. yellow, $\text{pH} = 12$

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