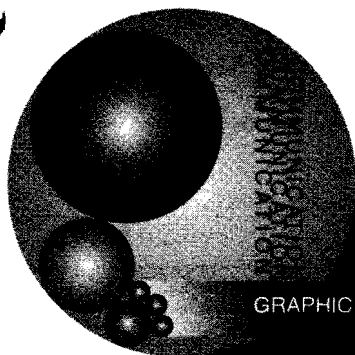


Name \_\_\_\_\_

Date \_\_\_\_\_ Score \_\_\_\_\_

# Ink

# 25



## Learning Objectives

After studying this chapter, you will be able to:

- Summarize the various properties of ink.
- Define commonly used terms relating to ink.
- Identify the characteristics of inks used for different printing processes.
- Describe the characteristics of some specialized inks.
- Describe how to mix and match ink.
- Explain how ink characteristics affect the printed product.

Answer the following questions. Write your answer in the space provided.

1. Identify the three main ingredients used in the formulation of ink and explain their function.

- A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- B. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- C. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Driers accelerate the ink drying process and are designed to prevent \_\_\_\_\_ that occurs when sheets are stacked and ink is transferred or smeared.

2. \_\_\_\_\_

3. Explain each of the following properties of ink.

A. Color strength

\_\_\_\_\_  
\_\_\_\_\_

(Continued)

B. Ink body

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C. Ink stability

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D. Ink length

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E. Ink tack

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F. Ink drying

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4. An ink \_\_\_\_ gauge is used to measure the thickness of the ink film on the press. An ink \_\_\_\_ gauge measures the pigment particle size in the ink with a very high degree of accuracy.

4. \_\_\_\_\_

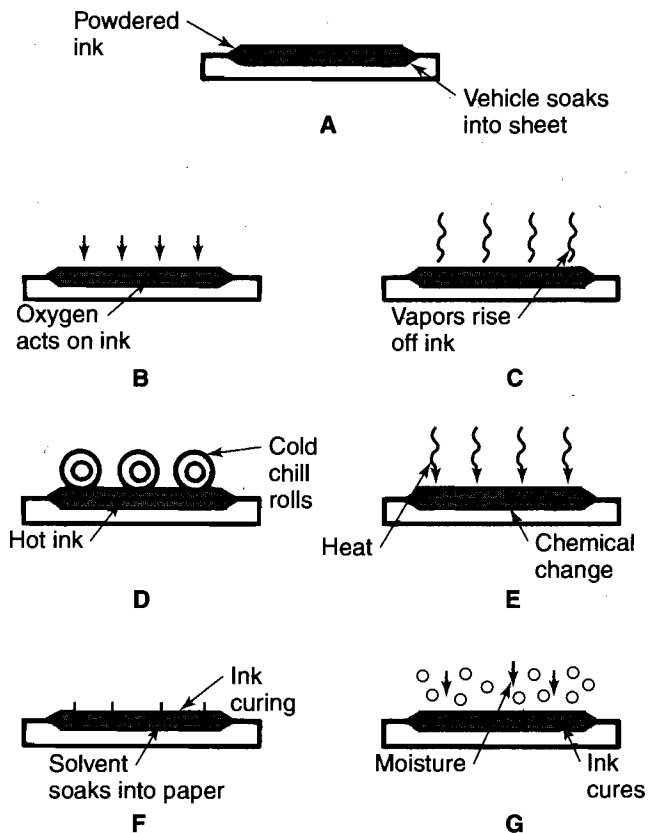
\_\_\_\_\_

5. Picking, splitting, and tearing are printing problems caused by excessive \_\_\_\_.

5. \_\_\_\_\_

6. Identify the different methods used for drying ink in the illustration at right.

- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_
- D. \_\_\_\_\_
- E. \_\_\_\_\_
- F. \_\_\_\_\_
- G. \_\_\_\_\_



Name \_\_\_\_\_

7. Newspapers commonly use ink that dries by \_\_\_\_\_. 7. \_\_\_\_\_

8. What type of ink dries by absorbing oxygen from the surrounding air?  
\_\_\_\_\_

9. \_\_\_\_\_ ink is a very stable ink that can tolerate sunlight, chemicals, heat, moisture, and gases without fading. 9. \_\_\_\_\_

- a. Fugitive
- b. Opaque
- c. Resistant
- d. Fluorescent

10. Ink \_\_\_\_\_ refers to how easily an ink will flow. 10. \_\_\_\_\_

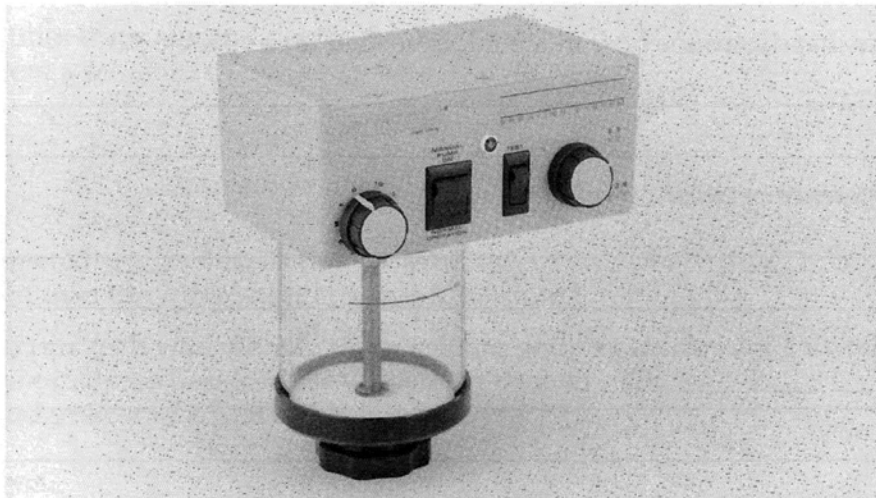
11. What is *halftone black* ink?  
\_\_\_\_\_  
\_\_\_\_\_

12. \_\_\_\_\_ cuts an ink's tack and body and can be used to correct problems like picking and linting. 12. \_\_\_\_\_

- a. Liquid tack reducer
- b. Paste tack reducer
- c. Cleaning white
- d. Spray powder

13. What additives must be used when dried ink makes direct contact with food or edible materials?  
\_\_\_\_\_  
\_\_\_\_\_

14. The \_\_\_\_\_ shown below is a special press attachment used to prevent ink setoff. 14. \_\_\_\_\_



15. Alcohol-based inks used in flexographic printing typically dry by \_\_\_\_\_. 15. \_\_\_\_\_

16. Inking the recessed cells of a gravure plate or cylinder is a process known as \_\_\_\_\_. 16. \_\_\_\_\_

17. Screen printing inks use a(n) \_\_\_\_\_ to hold together the pigment and help adhere the ink to the substrate. 17. \_\_\_\_\_
18. Why does the formulation of lithographic inks vary greatly?  
\_\_\_\_\_  
\_\_\_\_\_
19. What are the two main causes of *scumming*?  
\_\_\_\_\_  
\_\_\_\_\_
20. \_\_\_\_\_ is a problem in which a slight tint of ink is left on the nonimage area of the printed sheet. 20. \_\_\_\_\_
21. Explain why vegetable-oil based color inks are more environmentally safe than conventional inks.  
\_\_\_\_\_  
\_\_\_\_\_
22. \_\_\_\_\_ inks are converted from a liquid state to a solid through a chemical reaction called *polymerization*. 22. \_\_\_\_\_  
a. Proofing  
b. Sheet-fed  
c. Laser-proof  
d. UV-curable
23. A(n) \_\_\_\_\_ is a computer-controlled color matching instrument that measures the relative intensity of radiation through the spectrum based on a sample. 23. \_\_\_\_\_
24. List four factors that determine how much ink is needed for a specific job.  
\_\_\_\_\_  
\_\_\_\_\_
25. Explain the difference between *set ink* and *dry ink*.  
\_\_\_\_\_  
\_\_\_\_\_
26. Explain the following ink-related printing problems and identify how they are commonly caused.
- A. Chalking \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- B. Strike-through \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Continued)

Name \_\_\_\_\_

C. Setoff \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_D. Ink sticking \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_E. Plate wear \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_F. Off color \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_G. Specking \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

27. Ink \_\_\_\_\_ identifies the range and depth of colors that can be produced from a set of inks. 27. \_\_\_\_\_  
 a. hue error  
 b. efficiency  
 c. strength  
 d. purity
28. A color is considered \_\_\_\_\_ when its predominant color reflects less light than the white sheet of paper it is printed on. 28. \_\_\_\_\_
29. A \_\_\_\_\_ is a color diagram designed for visualizing the hue error and grayness factor of actual colors in relation to ideal colors. 29. \_\_\_\_\_  
 a. color hexagon  
 b. color circle  
 c. color key  
 d. subtractive color triangle
30. The percentage of \_\_\_\_\_ is best determined by ink density readings and evaluation of the four basic ink characteristics. 30. \_\_\_\_\_