

Chapter 28 Test Color

True or False Questions

Circle the correct answer.

- T** **F** 1. Two colors of light that add together to form black light are called complementary colors.
- T** **F** 2. The sky is blue because air molecules absorb blue light.
- T** **F** 3. A spectroscope is an instrument that analyzes the colors in a light beam.
- T** **F** 4. Some electrons in atoms vibrate at a characteristic frequency that produces white light.
- T** **F** 5. Tennis balls are yellow-green because our eyes are most sensitive to that color.

Multiple Choice Questions

Choose the best answer to each question and write the appropriate letter in the space provided.

- _____ 6. Although sunlight contains all colors of light, the brightest color is
 - a. violet.
 - b. blue-violet.
 - c. yellow-green.
 - d. orange.
- _____ 7. The three primary colors of light addition are
 - a. red, yellow, and green.
 - b. red, yellow, and blue.
 - c. red, green, and blue.
 - d. yellow, green, and blue.
- _____ 8. When red and green light shine on a white sheet, the resulting color is
 - a. blue.
 - b. cyan.
 - c. green.
 - d. yellow.
- _____ 9. The complementary color of blue is
 - a. violet.
 - b. cyan.
 - c. green.
 - d. yellow.
- _____ 10. The three paint colors that are useful for color subtraction are
 - a. red, green, and blue.
 - b. red, blue, and yellow.
 - c. magenta, cyan, and yellow.
 - d. magenta, green, and yellow.

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- _____ 11. The reason the sky is blue is that air molecules
- scatter blue light in all directions.
 - reflect blue light.
 - absorb yellow light.
 - absorb green light.
- _____ 12. The earth receives a significant amount of ultraviolet radiation from the sun. Luckily most of it doesn't reach the ground, because it is
- scattered by the upper atmosphere.
 - absorbed by a protective layer of ozone gas in the upper atmosphere.
 - absorbed by the large amount of air in the atmosphere.
 - Actually there isn't enough UV radiation coming from the sun to harm us.
- _____ 13. On the moon, the daytime sky looks
- blue.
 - yellow.
 - white.
 - black.
- _____ 14. Clouds are white because water molecules
- reflect white light.
 - absorb white light.
 - form clusters of different sizes and these clusters scatter different colors of light.
 - are white.
- _____ 15. When a sample of an element is heated until it glows, the color it gives off is
- a single frequency of light.
 - a composite of lots of frequencies of light.
 - a continuous band of color.

Essay Question

On a separate sheet of paper, answer the following question.

16. Explain why the sky is blue and sunsets are red.