Alternative Chapter Assessment Answers

1. c
2. d
3. c
4. b
5. d
6. c
7. b
8. a
9. c
10. c
11. 3 m/s
12. wavelength
13. amplitude or displacement
14. focus
15. refraction
16. Make an image of a distant object. Measure the distance from the image to the lens.
17. a) Count how many cycles of the wave there are in a certain time. Divide the time into the number of cycles.

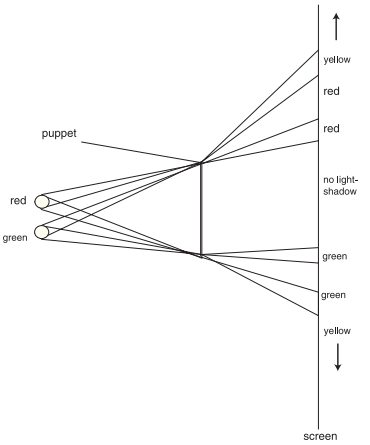
    b) Invert the frequency (divide it into 1).
18. The difference is in the direction of the back-and-forth motion.
    In a transverse wave, the Slinky goes back and forth perpendicular to the direction the wave moves. In a compressional wave, the Slinky goes back and forth in the same direction the wave moves. See drawings on p. 183 and 185.
19. a) See the drawing on page 218.

    b) the angles are equal
20. a) from longest to shortest

    b) The shortest makes the highest pitch; the longest makes the lowest pitch.
21. a) See angles 1 and 2 in the drawing on page 231.

    b) The light bends toward the normal (going into the gelatin).

22. a) and b)



c) and d) The shadows are larger, because the light is small, and the light rays spread out to reach the puppet. After passing the puppet, they keep on spreading.