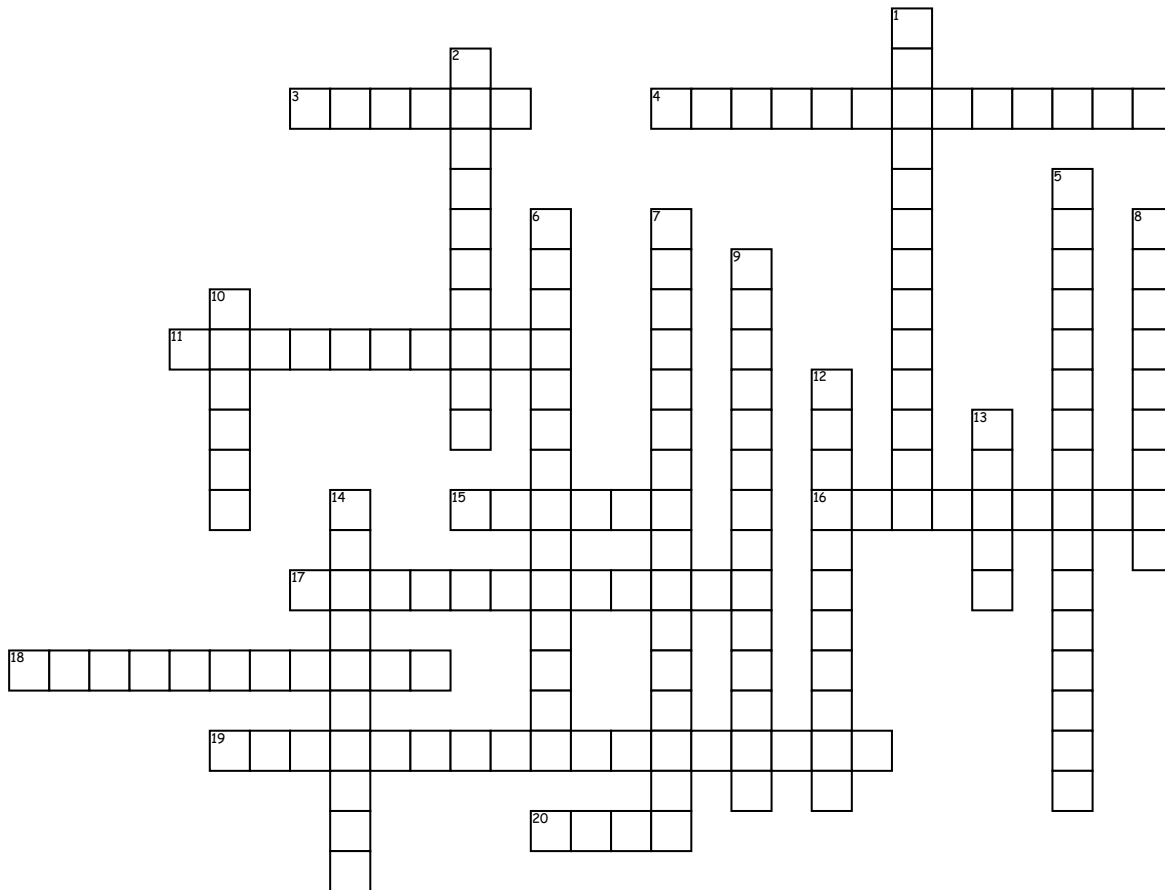


# Waves



## Across

3. a surface that is either plane, concave, or convex and that reflects rays of light.
4. the increase or decrease in size of an image produced by an optical system compared to the true size
11. change in direction of a wavefront at an interface between two different media so that the wavefront returns into the medium from which it originated
15. the time needed for one complete cycle of vibration to pass a given point
16. the number of crests of a wave that move past a given point in a given unit of time
17. combination of two or more electromagnetic waveforms to form a resultant wave in which the displacement is either reinforced or canceled

18. a lens that possesses at least one surface that curves inwards It is a diverging lens, meaning that it spreads out light rays that have been refracted through it

19. the angle made by a reflected ray with a perpendicular to the reflecting surface

20. a disturbance on the surface of a liquid body

## Down

1. the angle of incidence beyond which rays of light passing through a denser medium to the surface of a less dense medium are no longer refracted but totally reflecte
2. the point at which rays or waves meet after reflection or refraction, or the point from which diverging rays or waves appear to proceed
5. the angle that an incident line or ray makes with a perpendicular to the surface at the point of incidence

6. a wave vibrating at right angles to the direction of its propagation

7. a wave vibrating in the direction of propagation

8. a line that is perpendicular to the light's wavefronts; its tangent is collinear with the wave vector

9. the degree to which a refractive medium retards transmitted rays of light

10. A substance that makes possible the transfer of energy from one location to another, especially through waves

12. the process by which a beam of light or other system of waves is spread out as a result of passing through a narrow aperture or across an edge

13. a vibration that propagates as a typically audible mechanical wave of pressure and displacement, through a medium such as air or water

14. a converging lens