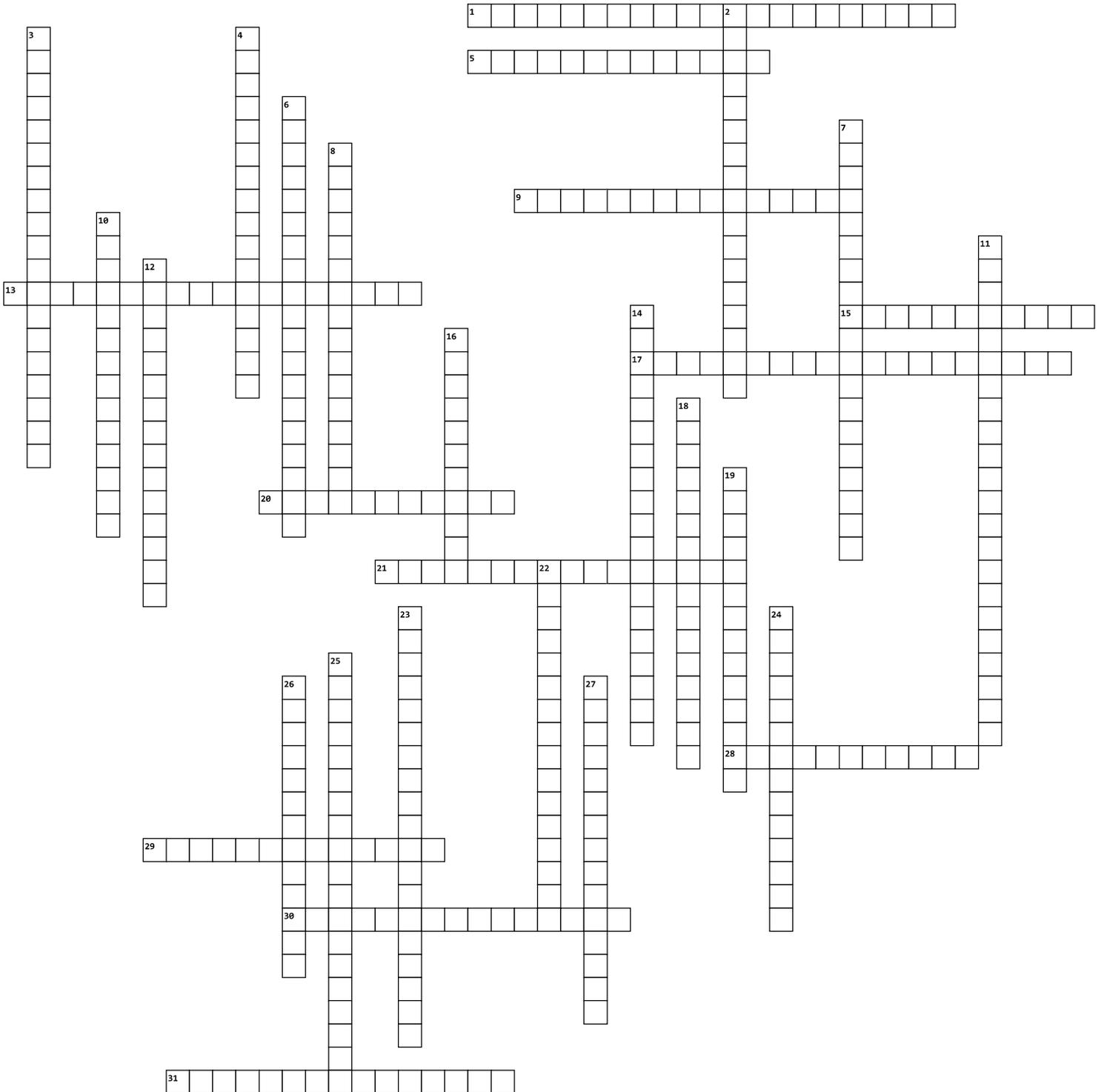


Acoustics



Across

1. Oscillations that produce sound waves in a material medium.
5. A logarithmic scale used to measure sound intensity.
9. Range of sound frequencies audible or used in

Down

2. The speed at which sound waves propagate through a medium.
3. The bouncing back of sound waves from a surface.
4. Movement of waves through a medium.

applications.

13. Waves in which particle displacement is parallel to the direction of wave propagation.

15. Method for measuring velocity of sound by analyzing reflected sound waves.

17. The natural frequency at which an object vibrates when disturbed.

20. A surface that reflects sound waves to direct them towards a listener.

21. The difference in phase between two points in a sound wave cycle.

28. A device that collects and directs sound waves into the ear for better hearing.

29. The rate of wave travel through a given medium.

30. A medium with lower density, affecting sound speed.

31. The power carried by sound waves per unit area in a direction perpendicular to that area.

6. Sound reflection from surfaces, altering wave direction.

7. Different types of sound waves based on frequency: infrasonic, audible, and ultrasonic.

8. Reduction in sound energy as it passes through a medium or reflects off a surface.

10. Density of the material through which sound travels, impacting speed and quality.

11. Distance between two successive points in phase in a wave cycle.

12. Surfaces with curvature that alter the direction and spread of sound waves.

14. The minimum frequency at which a sound can be perceived by the ear.

16. Mechanical vibrations that travel through a medium as waves.

18. Sound waves with frequencies above the human audible range ($>20,000$ Hz).

19. Flat surfaces that affect sound reflection and propagation.

22. Sound waves with frequencies below the human audible range (<20 Hz).

23. Changes in the maximum displacement of sound waves.

24. Change in frequency or wavelength of sound relative to an observer moving relative to the source.

25. The process by which sound is interpreted by the brain.

26. Regulating the perceived frequency of sound.

27. The number of oscillations of sound per second, measured in Hertz (Hz).