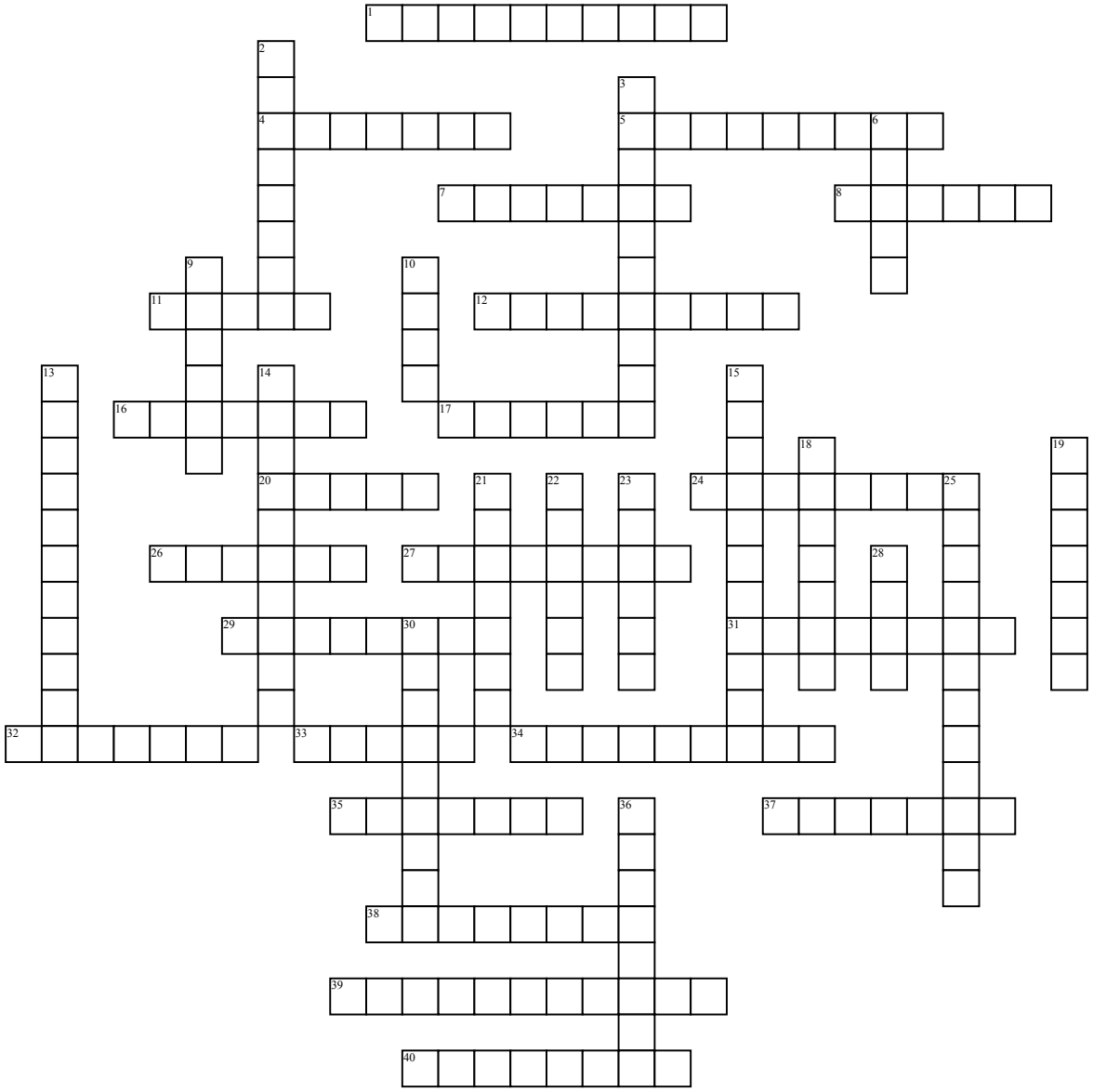
Acoustics and Resonance



Across

1. waves where the displacement of the medium is perpendicular to the wave
4. wave changes direction because of a local difference
5. concerned with the properties of sound
7. frequency of initial vibration
8. time it takes for one cycle to occur
11. causes an object to undergo a change in speed, direction, or shape
12. something that is set into vibration by the action of another vibration
16. sound that is characterized by waves that consist of two or more frequencies
17. lowest point in a cycle; maximum point of rarefaction
20. disturbance that creates changes in pressure throughout an elastic medium
24. deals with time
26. acoustical resonance that relates to speech production
27. a force that acts perpendicularly on a surface
29. wave changes direction due to an obstacle
31. sound passes through something
32. portion of the sound wave that is not transmitted or absorbed bounces from the surface vof the boundary and travels in the opposite direction
33. vibration occurring from a point of rest, to a point of maximum displacement, to rest, to maximum displacement, to rest
34. number of cycles per second measured in Hertz
35. frequency where an elastic system will vibrate if set into vibration and left alone
37. decrease in amplitude
38. the complex sound that consists of a series of frequencies that are systematically related to each other
39. molecules move close together
40. type of wave that appears to be "stationary"

Down

2. frequencies that are multiples of the fundamental frequency
3. the distance from crest to crest, trough to trough, or a point on one wave cycle to the corresponding point on the new wave cycle
6. maximum upward displacement; maximum point of compression
9. the quantity of three-dimensional space occupied by a liquid, solid, or gas
10. a disturbance of pressure that moves through a medium
13. multiple reflections
14. the propert of an object to return to its original shape
15. molecules move farther apart
18. deals with space
19. analysis where the complex periodic waves can be represented by the sum of its component frequencies, as well as their amplitudes and phases
21. in motion, stays in motion; at rest, stays at rest
22. damping of a wave
23. vibration where objects or systems are forced into vibration
25. waves where the displacement of the medium is parallel to the wave
28. the amount of matter in an object
30. the maximum displacement from position of rest; perception is loudness
36. decrease of amplitude due to friction within the air