

CHAPTER OVERVIEW

12: Waves

In this chapter, we will study the physics of wave motion. We concentrate on mechanical waves, which are disturbances that move through a medium such as air or water. Like simple harmonic motion studied in the preceding chapter, the energy transferred through the medium is proportional to the amplitude squared. The concepts presented in this chapter will be the foundation for many interesting topics, from the transmission of information to the concepts of quantum mechanics.

- [12.1: Traveling Waves](#)
- [12.2: Mathematics of Waves](#)
- [12.3: Wave Speed on a Stretched String](#)
- [12.4: Energy and Power of a Wave](#)
- [12.5: Sound Waves](#)
- [12.6: Speed of Sound](#)
- [12.7: Interference of Waves](#)
- [12.8: Standing Waves and Resonance](#)
- [12.9: Normal Modes of a Standing Sound Wave](#)
- [12.10: Sources of Musical Sound](#)
- [12.11: Beats](#)
- [12.12: The Doppler Effect](#)
- [12.13: Shock Waves](#)
- [12.14: The Human Ear](#)
- [12.E: Practice](#)
- [12.E: Waves \(Exercises\)](#)
 - [1.E: Sound \(Exercises\)](#)
 - [1.E: Waves \(Exercises\)](#)
- [12.S: Waves \(Summary\)](#)

This page titled [12: Waves](#) is shared under a [CC BY-NC-SA 4.0](#) license and was authored, remixed, and/or curated by [OpenStax](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.