

## CHAPTER OVERVIEW

### 8: Heat and Heat Transfer Methods

Energy can exist in many forms and heat is one of the most intriguing. Heat is often hidden, as it only exists when in transit, and is transferred by a number of distinctly different methods. Heat transfer touches every aspect of our lives and helps us understand how the universe functions. It explains the chill we feel on a clear breezy night, or why Earth's core has yet to cool. This chapter defines and explores heat transfer, its effects, and the methods by which heat is transferred. These topics are fundamental, as well as practical, and will often be referred to in the chapters ahead.

[8.1: Prelude to Heat and Heat Transfer Methods](#)

[8.2: Heat](#)

[8.3: Temperature Change and Heat Capacity](#)

[8.4: Phase Change and Latent Heat](#)

[8.5: Heat Transfer Methods](#)

[8.6: Conduction](#)

[8.7: Convection](#)

[8.8: Radiation](#)

[8.E: Heat and Heat Transfer Methods \(Exercise\)](#)

*Thumbnail: Different flame types of a Bunsen burner depend on oxygen supply. On the left a rich fuel with no premixed oxygen produces a yellow sooty diffusion flame; on the right a lean fully oxygen premixed flame produces no soot. (GNU Free Documentation License, Version 1.2; Jan Fijałkowski).*

#### Contributors and Attributions

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