

CHAPTER OVERVIEW

13: Temperature, Kinetic Theory, and the Gas Laws

What is heat? How do we define it? How is it related to temperature? What are heat's effects? How is it related to other forms of energy and to work? We will find that, in spite of the richness of the phenomena, there is a small set of underlying physical principles that unite the subjects and tie them to other fields.

Topic hierarchy

- [13.0: Prelude to Temperature, Kinetic Theory, and the Gas Laws](#)
- [13.1: Temperature](#)
- [13.2: Thermal Expansion of Solids and Liquids](#)
- [13.3: The Ideal Gas Law](#)
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- [13.E: Work, Energy, and Energy Resources \(Exercise\)](#)

Thumbnail: High heat resulted in thermal expansion of these rails, buckling this section of railway. Imaged used with permission (Public domain; U.S. Department of Transportation)

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