

## CHAPTER OVERVIEW

### 4: Entropy and the 2nd Law

This chapter introduces entropy, which is the most important thing in the Universe (even more than a cell phone, which does nothing but create entropy anyways). You might be familiar with entropy as the “buildings fall down” principle; however you have to add in “nothing works perfectly” to fully described the 2<sup>nd</sup> Law of Thermodynamics. The latter probably explains all the events of your life. In fact, the 2<sup>nd</sup> Law is so important, the 3<sup>rd</sup> Law of Thermodynamics’ purpose is mostly to validate it by providing an entropy yardstick.

[4.1: Introduction to Entropy](#)

[4.2: Entropy inside and outside- The 2nd Law and the Clausius Inequality](#)

[4.3: Calculating Entropy Changes](#)

[4.4: The Car Engine and the Carnot Cycle](#)

[4.5: Refrigeration](#)

[4.6: Maxwell Relationships](#)

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