



## Tutorials in Thermal & Statistical Physics

 Indicates a research-demonstrated benefit

### Overview

Guided-inquiry worksheet activities to help students develop a better understanding of upper-division thermodynamics and statistical mechanics.



**Type of Method** Curriculum supplement, Tutorials





**Level**

**Designed for:** Intermediate , Upper-level Undergraduate 

**Can be adapted for:** Intro College Calculus-based, Intro College Algebra-based



**Setting**

**Designed for:** Lecture - Small (<30 students) , Recitation/Discussion Session 



**Coverage**

Many topics with less depth



**Topics**

Thermal / Statistical



**Instructor Effort**

Medium



**Skills**


**Designed for:** Conceptual understanding 

**Can be adapted for:** Problem-solving skills



**Research Validation**

**Based on research into:** student ideas about specific topics 

**Demonstrated to improve:** conceptual understanding 

**Studied using:** student interviews , research at multiple institutions 



**Compatible Methods**

[Peer Instruction](#), [PhET](#), [JiTT](#), [CGPS](#), [Physlets](#), [SCALE-UP](#), [OSP](#), [LA Program](#), [CAE TPS](#), [Paradigms](#), [Tutorials](#), [Clickers](#)



**Similar Methods**

[UW Tutorials](#), [ABP Tutorials](#), [OST Tutorials](#), [Lecture-Tutorials](#), [QuILTs](#), [Mechanics Tutorials](#), [Tutorials](#)



**Developer(s)**

John Thompson, Michael Loverude, David Meltzer, Warren Christensen, Don Mountcastle



**Resources**

For more information and to access the tutorials, email Mike Loverude at [mloverude@fullerton.edu](mailto:mloverude@fullerton.edu).

