

# Equipartition, Heat & Work

Thermodynamics

Winter 2025

College of the Atlantic.

1. What is the rms speed of  $N_2$  molecules in the air under typical (room temperature, one atmosphere) conditions? The answer may surprise you.
  
  
  
  
  
  
  
  
  
  
2. Which of the following processes are heat and which are work?
  - (a) Warming up your hands by rubbing them together
  - (b) Heating up water in a microwave.
  - (c) Heating up water on an electric stove.
  - (d) Heating up water on a gas stove.
  - (e) Ice melts in warm water.
  - (f) Energy flows from the sun to the earth