

Mr. Schneider presents...

Heat Topics

Temperature & Heat

- **Difference between temperature & heat**
- **Thermal equilibrium**
- **Thermal conductivity**
- Temperature scales (Fahrenheit, Celsius, Kelvin)
- Kinetic energy
- Internal KE
- Average internal KE (temperature)
- **Heat flow**
- Measuring heat (units)
- **Specific heat**
- Thermal expansion
- **3 kinds of heat transfer**
- Newton's law of cooling

Phase Changes

- **Evaporation**
- **Condensation**
- **Absolute & relative humidity**
- Fog & clouds
- **Vapor vs. liquid pressure**
- **Boiling**
- **Melting**
- **Freezing (fusion)**
- Regelation
- **Energy for phase changes**
 - **Heat of fusion**
 - **Heat of vaporization**

Thermodynamics

- Internal energy
- **Systems**
- **2 laws of thermodynamics (incl. all forms of 2nd law)**
- **Pressure vs. temperature of a gas**
- **Altitude vs. atmospheric temperature**
- Adiabatic processes
- Air conditioners
- **Heat engines**
- Mechanical efficiency
- **Carnot efficiency**
- **Entropy principle**

Mathematical Precision

- **Significant figures in multiplication/division**
- **Significant figures in addition/subtraction**
- **Scientific notation**