

Physics Unit Organizer
For ICPE

TOPICS:

1. Motion: speed, velocity, acceleration, free fall, Newton's Laws
2. Energy: momentum, work, potential energy, kinetic energy, power
3. Thermal Energy: temperature, heat, convection, conduction, radiation

STATE STANDARDS:

- Standard 1: Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
- Standard 2.2: Students know that energy appears in different forms, and can move (be transferred) and change (be transformed).
- Standard 2.3: Students understand that interactions can produce changes in a system, although the total quantities of matter and energy remain unchanged.
- Standard 5: Students know and understand interrelationships among science, technology, and human activity and how they can affect the world.

HABITS OF MIND:

- IA. Know why curiosity, honesty, openness, and skepticism are so highly regarded in science and how they are incorporated into the way science is carried out; exhibit those traits in their own lives and value them in others.
- IIA. Use ratios and proportions, including constant rates, in appropriate problems.
- IIB. Find answers to problems by substituting numerical values in simple algebraic formulas and judge whether the answer is reasonable by reviewing the process and checking against typical values.