Energy Types

1. List some common forms of Stored Energy
2. List some common forms of Energy in Action

Using Energy

1. Pick an appliance in your house and write an Energy Transformation Equation for the appliance.

Work & Energy

1. What is the difference between work and energy?
2. What is the unit for work / energy when time is measured in seconds?
3. What is the unit for work / energy when time is measured in hours?

Calculating Work

1. Create and solve a word problem that demonstrates the use of W=FΔd.

Zero Work and Negative Work

1. Provide an example related to change of position where no work is done.
2. Provide an example related to applied force where no work is done.
3. Provide an example where negative work is done.

Kinetic Energy

1. Create and solve a word problem that demonstrates the use of Ek = 1/2 mv2.
2. Define the Work-Energy Theorem.
3. Create and solve a word problem that demonstrates the use of W=ΔEk

Gravitational Potential Energy

1. Create and solve a word problem that demonstrates the use of Eg =mgh.

Energy Conservation

1. Define the Law of Conservation of Energy
2. Provide an example that demonstrates the conservation of Total Mechanical Energy.
3. Create and solve a roller coaster problem that demonstrates the use of ET = Eg + Ek.
4. Create and solve a pendulum problem that demonstrates the use of ET = Eg + Ek.

Power & Efficiency

1. Explain the difference between Power and Energy
2. What is the unit for Power?
3. Create and solve a word problem that demonstrates the use of P = W / Δt.
4. Create and solve a word problem that demonstrates the use of P = ΔE / Δt.
5. Write an Energy Transformation Equation that demonstrates: Input Energy, Output Energy, and waste Energy.
6. List some common types of waste energy.
7. Create and solve a word problem that demonstrates the use of the %efficiency equation.