Warm Up

1. What is the mass of an object that accelerated from 54.0 m/s to 63.0 m/s in a time of 2.00 sec with a force of 220. N?
2. What is the velocity of a merry-go-round with a radius of 2.00 m on a person with a mass of 89.0 kg who is experiencing 220. N of force?
3. What is the time (in hours) of a person who traveled at 32.0 m/s and covered 1994 km?
4. What is the time needed for a vehicle to go from 73.0 m/s to 92.0 m/s if the vehicle accelerated at 6.00 m/s^2?
5. What is the energy of an 89.0 kg person who is traveling at 15.0 m/s?

Target

- I can differentiate between the types of energy.

Energy and its Forms

- Energy allows for work to be done.
- Energy comes is several different types and many different forms.
- The first type of energy is kinetic energy or energy of motion.
- $KE = 1/2mv^2$

Practice

- What is the kinetic energy in a 2.0 kg ball traveling at 9.0 m/s?
- Answer:
- 81 Joules of energy

- The other type of energy is potential energy.
- There are two categories of potential energy.
- The first is gravitational potential energy.
- PE = mgh

Practice

- What is the energy of a 2.00 kg ball that is dropped from 9.00 meters up?
- Answer:
- 176 Joules of energy

- The second category of potential energy is elastic potential energy.
- This is energy that is stored due to shape or material.
- This is found is objects that stretch or can be compressed.

Forms of Energy

- Mechanical Energy - energy of motion or position.
- Chemical Energy - energy in the bonds.
- Thermal Energy - energy in the motion of particles.

- Electric Energy - energy in moving electrons.
- Electromagnetic Energy - energy in light waves.
- Nuclear Energy - energy in the nucleus of atoms.

Summary

- Potential energy is related to position or shape.
- Kinetic energy is related to movement.
- Both use joules as a unit of measure.
- There are six forms of energy.

Assignment

- Energy Worksheet