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Kinetic Energy Quiz:

1. A breakfast cereal provides 100 Calories of energy per serving. Express the energy with units of joules.
2. Determine the speed of a 4 pound object with 5000 joules of kinetic energy.
3. A 60 kg girl is running at a track and field stadium. Determine her kinetic energy when her speed is 2 m/s.
4. A 60 kg girl is running at a track and field stadium. Determine her kinetic energy when her speed is 4 m/s.
5. A 60 kg girl is running at a track and field stadium. Determine her kinetic energy when her speed is 6 m/s.
6. A car is traveling at 25 mi/hr. Determine the increase in kinetic energy if the car reaches a speed of 75 mi/hr.
7. What temperature is twice as warm as 0 °C? (Hint: Use the Kelvin scale)
8. If the mass of an object is constant and the kinetic energy doubles, by what factor did the speed change?
9. If the speed of an object is constant and the mass doubles, by what factor did the kinetic energy change?
10. A car traveling at 50 m/s with a kinetic energy of 1.5×10^6 J. Determine the mass of the car.