

Module 08-Lesson 1

Kinetic Energy

Question 1: **Question 1:** If the kinetic energy of a ping-pong ball is doubled, by how much does its momentum change? If the ball's momentum is doubled, by how much does its kinetic energy change?

Question 2: A pitcher throws a 141-g baseball, transferring to it 64 J of energy. If all the energy transferred to the ball ends up as kinetic energy, find its speed right after leaving the pitcher's hand.

Problem: A racing dog is initially running at 10.0 m/s. (a) How fast is the dog moving when its kinetic energy is reduced by half? (b) By what fraction is its kinetic energy increased when the initial speed of the dog is increased by half?