

Momentum Mini Lesson

Unit 4 Physics Essentials



Discussion: When have you heard the word momentum before?

Why don't we bowl with ping pong balls?



What is momentum?

Definition: Mass in motion

Equation: Momentum = mass x velocity or $p = mv$

Units: $\text{kg}\cdot\text{m/s}$

Vector quantity: Why?

Conservation of Momentum

The total momentum of the two objects before the collision is equal to the total momentum of the two objects after the collision.

This sounds like which of Newton's Laws?

Practice Problems

A 70 kg person runs into a wall at 3 m/s. What is the momentum of the person?

A test car crashes into a wall and produces a momentum of 30,000 kgm/s. The car is moving at 15 m/s. What is the mass of the car?