

Momentum

Post-assessment 2

1. A 3 kg ball moves at 4 m/s. What is its momentum?
 - a) 3 kg·m/s
 - b) 4 kg·m/s
 - c) 7 kg·m/s
 - d) 12 kg·m/s
2. A 1,000 kg car is moving at 10 m/s. A 2,000 kg truck is moving at 5 m/s. Which has more momentum?
 - a) The car
 - b) The truck
 - c) Both have the same momentum
 - d) Not enough information
3. Which of the following changes will **increase** an object's momentum?
 - a) Decreasing its mass
 - b) Decreasing its velocity
 - c) Increasing its velocity
 - d) Keeping the mass and velocity constant
4. What does the equation $F = \frac{dp}{dt}$ imply?
 - a) Force is the rate of change of momentum
 - b) Momentum is constant regardless of force
 - c) Force and momentum are unrelated
 - d) None of the above
5. If a 10 kg object has a momentum of 30 kg·m/s, what is its velocity?
 - a) 2 m/s
 - b) 3 m/s
 - c) 5 m/s
 - d) 10 m/s
6. If the force on an object increases, what happens to its momentum?
 - a) It stays the same
 - b) It decreases
 - c) It increases
 - d) It disappears

7. Which of the following real-world examples involves momentum conservation?

- a) A parked car
- b) A rocket launch
- c) A still ball
- d) A person sitting