

<b>Momentum conservation ( worksheet 1 )</b>	
<b>Quiz: How does the airbag in the car save lives?</b>	
<ul style="list-style-type: none"><li>- It increases the force by increasing the time of collision.</li><li>- It decreases the force by increasing the time of collision.</li><li>- It increases the force by decreasing the time of collision.</li><li>- It decreases the force by decreasing the time of collision.</li></ul>	
<b>Which type of system (<u>does not gain or lose mass</u>)?</b>	
<ul style="list-style-type: none"><li>a. Closed system</li><li>b. Isolated system</li><li>c. Open system</li><li>d. Equilibrium system</li></ul>	
<b>What term describes a system with (<u>no balanced external forces</u>) acting from objects outside it?</b>	
<ul style="list-style-type: none"><li>a. Isolated system</li><li>b. Open system</li><li>c. Closed system</li><li>d. Equilibrium system</li></ul>	
<b>What does the <u>law of conservation of momentum</u> state?</b>	
<ul style="list-style-type: none"><li>a. The momentum of any closed, isolated system does not change</li><li>b. The momentum of any system increases over time</li><li>c. The momentum of any system decreases over time</li><li>d. The momentum of any system depends on its mass</li></ul>	

**A 1 kg object is moving with a velocity of 10 m/s to the right. It collides with a stationary 2 kg object. After the collision, the 1 kg object moves to the left with a velocity of 4 m/s. What is the velocity of the 2 kg object after the collision?**

- a. 12 m/s to the left
- b. 8 m/s to the left
- c. 4 m/s to the right
- d. 2 m/s to the right

**Two carts with masses of 1 kg and 2 kg collide elastically. Before the collision, the 1 kg cart is moving with a velocity of 3 m/s to the right, and the 2 kg cart is stationary. After the collision, what is the velocity of the 1 kg cart?**

- a. 0.5 m/s to the right
- b. 1.0 m/s to the right
- c. 1.5 m/s to the right
- d. 3.0 m/s to the right

**A ball with a mass of 0.5 kg and a velocity of 6 m/s collides with a stationary ball with a mass of 0.3 kg. If the collision is perfectly elastic, what is the velocity of the first ball after the collision?**

- a. 14 m/s
- b. 8 m/s
- c. 7 m/s
- d. 4 m/s