

Conservation of Momentum Review

The Formula for Momentum is:

$$\text{Momentum} = \text{Mass} * \text{Velocity}$$

OR

$$p = mv$$

1. A rolling bowling ball has a mass of 5 kg and a velocity of 2 m/s. What is its momentum?

2. A bowling pin is sitting still. What is its velocity?

3. If a bowling pin has a mass of 1 kg and is sitting still, what is its momentum?

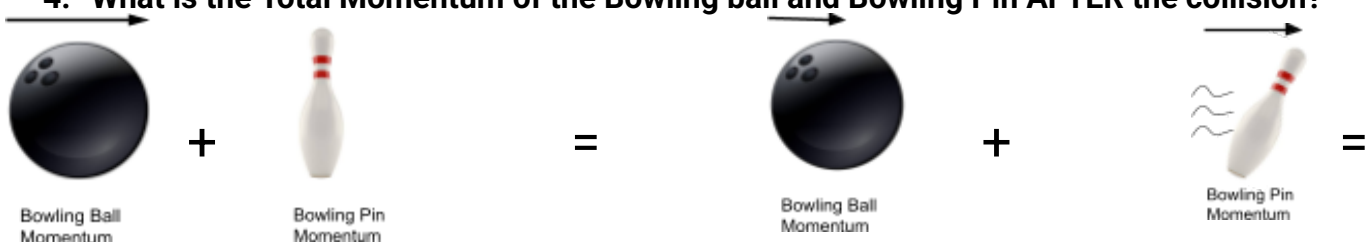
The **TOTAL MOMENTUM** of a system is the momentum of one object + the momentum of the second object.

Momentum of Bowling Ball	Momentum of Bowling Pin	Total Momentum BEFORE Collision



When Objects collide, the Total Momentum of the two objects **BEFORE** the collision is always **EQUAL** to the Total Momentum **AFTER** the collision.

4. What is the Total Momentum of the Bowling ball and Bowling Pin **AFTER** the collision?



5. After the collision, the bowling ball **STILL** has a mass of 5kg. But now it has slowed down after hitting the pins and has a velocity of 1 m/s. What is its new momentum?

6. If the total momentum of the bowling ball **AND** bowling pin is 10, and the bowling ball has a momentum of 5 **AFTER** the collision, how much momentum does the bowling pin have **AFTER** the collision?

7. If the bowling pin still has a mass of 1 kg, what is its velocity **AFTER** the collision?

More Practice:

Before Collision with Ball		Total Momentum Before	After Collision with Ball		Total Momentum After
MV_{before}	mv_{before}		MV_{after}	mv_{after}	
5	0		2		
12		30	8		
40			8		50
25			5	25	

You can start further review with this Quizziz:

