



Science Virtual Learning

# 6th Grade Science: Calculating Momentum

April 17, 2020



6th Grade Science  
Lesson: April 17, 2020

**Objective/Learning Target:**

Students will calculate the momentum of an object.

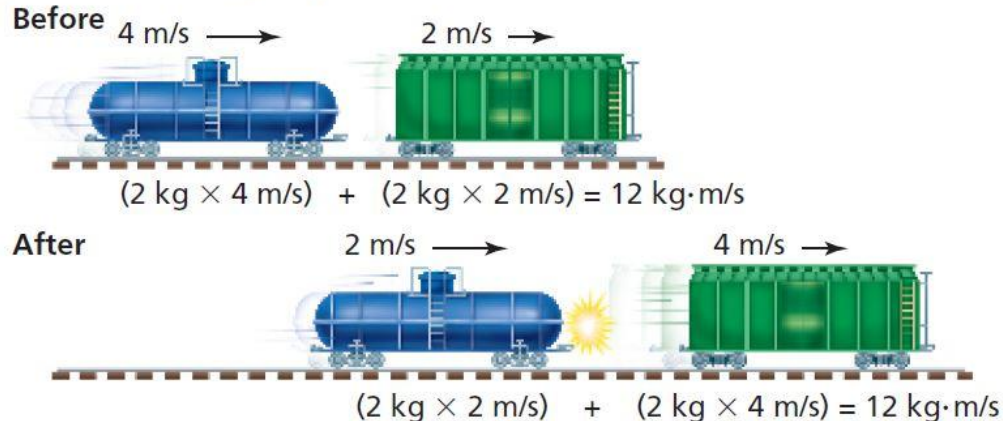
**Essential Question:**

How can you determine the amount of motion of an object?

## Warm-Up

Before the cars collide the blue car has a speed of 4 meters per second. Afterwards, it is going 2 meters per second. Why does it move more slowly?

### A Two Moving Objects



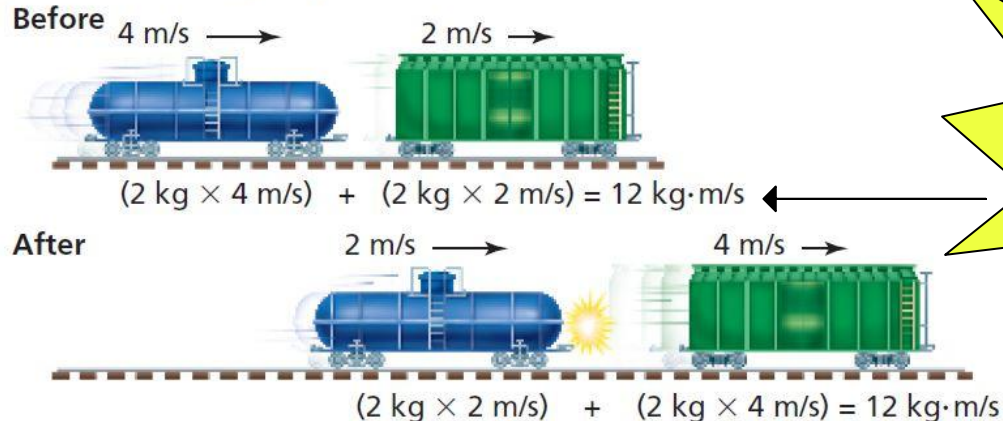
## Warm-Up **Answer**

Before the cars collide the blue car has a speed of 4 meters per second. Afterwards, it is going 2 meters per second. Why does it move more slowly?

### Answer:

Some of the momentum of the blue car was transferred to the green car. This is The Law of Conservation of Momentum.

### A Two Moving Objects



Notice the equation for momentum  
 $(p=mv)$



## Key Terms

force- a push or a pull. The strength of a force is measured in Newtons (N).

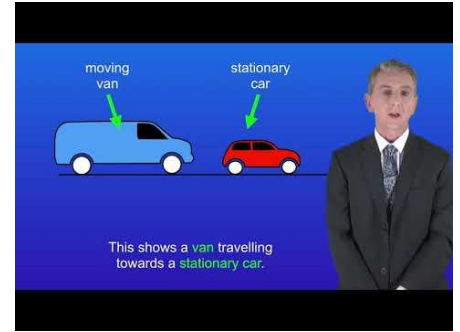
mass- the amount of matter in an object

momentum- a measurement of the amount of motion an object has.  
momentum= mass x velocity ( $p=mv$ )

velocity- speed in a certain direction

## Warm-Up Part 2

Watch the [video](#) then try the problem below.

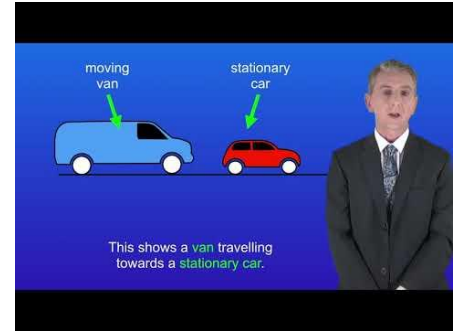


Q: A football player has a mass of 100kg and is running 10m/s.  
What is his momentum?

**momentum =  
mass x  
velocity**

## Warm-Up Part 2 **Answer**

Watch the [video](#) then try the problem below.



Q: A football player has a mass of 100kg and is running 10m/s.  
What is his momentum?

A:  $100\text{kg} \times 10\text{m/s} = 1000\text{kg} \cdot \text{m/s}$

## Practice 1

1. Read this [article on momentum](#).
2. Complete these [practice problems](#).



**Momentum  
is “mass in  
motion”**



## Practice 2

1. Watch the Bill Nye [video clip](#).
2. While watching on a piece of paper complete a 3, 2, 1.
  - 3 things you learned.
  - 2 things you still don't understand.
  - 1 question that you still have.





## Additional Practice

If you still need more practice try the links below:

1. Complete the practice [worksheet](#).
2. [Momentum Calculator](#)