

## Momentum Concepts

---

Momentum is a very useful concept that combines the ideas of inertia with velocity – you can think of it as “inertia in motion.”

Momentum is defined as \_\_\_\_\_ x \_\_\_\_\_. It has units of \_\_\_\_\_.

Momentum is important because it is \_\_\_\_\_. This means that the total amount of momentum stays the same. Anytime two things crash, their total momentum \_\_\_\_\_. Anytime two things push off each other, their momenta are \_\_\_\_\_, which means that one has a \_\_\_\_\_ momentum and the other has a \_\_\_\_\_ momentum. The only way that something can gain momentum is if something else \_\_\_\_\_ momentum.

What was Newton’s Third Law?

What does Newton’s Third Law have to do with momentum?

Impulse is defined as \_\_\_\_\_ x \_\_\_\_\_. The impulse on an object is equal to an object's \_\_\_\_\_.

In a car crash, why is it good for an occupant to extend the time during which the crash takes place?

Why do seatbelts and airbags help you in a car crash?

### *Summary*

---

What is *momentum*?

Why is momentum important?

What is *impulse*?

Why is impulse important?