

Name: _____ Group: _____

Newton's 3rd Law

When you walk *your foot pushes backwards on the ground*. In return the *ground pushes forward on your foot*. This is what moves you forward.

This is a force pair.

If a force is applied by **Object 1 on Object 2** the force pair is **Object 2 on Object 1**

Write the force pair for each of the following:

1. Book on a table
2. you push on a wall
3. Your hand pushes a shopping cart
4. slap a mosquito on the wall

TYPE up an explanation to the following questions. These must be grammatically correct and carefully proofread.

The explanation should be one that a 5th grader can understand (which means you can't use vocabulary they won't know without explaining them) and the writing must be at a college level.

1. Internal injuries in vehicular accidents may be due to what is called the "third collision." The first collision is the vehicle hitting the external object, such as a tree or another car. The second collision is the person hitting something on the inside of the car, such as the dashboard or windshield. This may cause external lacerations. The third collision, possibly the most damaging to the body, is when organs, such as the heart or brain, hit the ribcage, skull, or other confines of the body, bruising the tissues on the leading edge and tearing the organ from its supporting structures on the trailing edge.

a. Why is there a third collision? In other words, why are the organs still moving after the second collision?

b. If the vehicle was traveling at 60 miles per hour before the first collision, would the organs be traveling more than, equal to, or less than 60 miles per hour just before the third collision?

2. Josh and Taylor, standing face-to-face on frictionless ice, push off each other, causing each to slide backward. Josh is much bigger than Taylor. After the push, which of the two is moving faster? Explain why this happens.