

Force Introduction: Background

Force is a major concept in studying motion. It is the reason the motion of objects change. In the most basic sense, a force is a push or pull. It is key to know, even if you're not teaching them, to understand Newton's 3 Laws of motion. The first law is largely not understood by the students. They think that when an object stops it "runs out of force," which is not true. Another important point is the second law as stated in the following formulae

$$\sum \vec{F} = m\vec{a}.$$

There are two important points from this formulae: 1) it is the sum of all the forces that result in motion (often referred to as balanced and unbalanced forces) 2) force changes the velocity of an object. One difficult concept is that an object can have a *constant* velocity, but have a 0 net force.