Glossary

change in momentum the difference between the final and initial momentum; the mass times the change in velocity

conservation of momentum principle when the net external force is zero, the total momentum of the system is conserved or constant

elastic collision a collision that also conserves internal kinetic energy

impulse the average net external force times the time it acts; equal to the change in momentum

inelastic collision a collision in which internal kinetic energy is not conserved

internal kinetic energy the sum of the kinetic energies of the objects in a system

isolated system a system in which the net external force is zero

linear momentum the product of mass and velocity

perfectly inelastic collision a collision in which the colliding objects stick together

point masses structureless particles with no rotation or spin

quark fundamental constituent of matter and an elementary particle

second law of motion physical law that states that the net external force equals the change in momentum of a system divided by the time over which it changes