



## UNDERSTANDING CAR CRASHES: IT'S BASIC PHYSICS

### CONSERVATION - IT'S THE LAW!

#### IIHS in the Classroom NGSS Standards Alignment

##### High School

###### HS-PS2-2

Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.

###### HS-PS3-2

Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative positions of particles (objects).

###### HS-PS3-3

Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.

##### Middle School

###### MS-PS3-5

Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

###### MS-PS2-2

Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

##### Grades 3-5

###### 4-PS3-1

Use evidence to construct an explanation relating the speed of an object to the energy of that object.

###### 4-PS3-3

Ask questions and predict outcomes about the changes in energy that occur when objects collide.