UNDERSTANDING CAR CRASHES: IT'S BASIC PHYSICS

MOMENTUM BASHING 2
IIHS in the Classroom NGSS Standards Alignment

**High School**

**HS-PS2-1**
Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.

**Middle School**

**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.

**MS-ETS1-1**
Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

**Grades 3-5**

**3-5-ETS1-1**
Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

**3-5-ETS1-2**
Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

**3-5-ETS1-3**
Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

**3-PS2-2**
Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

**3-PS2-1**
Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.