

OBJECTIVES:

After this lesson students will be able to:

- Define the 5 vocabulary words
- Explain how safety belts prevent injury
- Identify three other safety features in a vehicle



1. Read and discuss key words. Have they heard these words? Are they used differently here? How can words have different meanings in different situations? (Crash in this instance is used as a noun rather than its more common usage as a verb.)

WHAT YOU WILL LEARN TODAY

In this lesson you will learn what happens in an automobile crash and why it is important to wear your seat belt.

DID YOU KNOW?

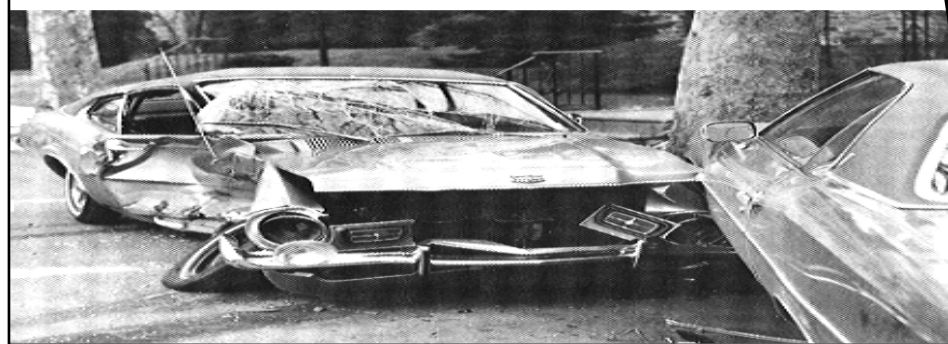
Wearing a seat belt could save your life.

WHAT HAPPENS IN A CRASH?

When a car crashes, it usually hits another object. This object is often another car, but it could be a tree, a bridge, or something

else. When a car hits an object, it creates a great **force**. It is the force of the **crash** that causes **injury**. This force can cause damage to your body if you are not buckled up. The force can throw you out of the vehicle. It can also throw you against things inside the car, like the dashboard, or even against other people in the car.

Think of it this way—if your car is going 40 miles per hour and you have a crash, that is the same as falling from a 5 story building. Have you ever watched a television program when someone falls off a building? Unless the person was Superman, he or she was probably seriously injured or died.



KEY WORDS:

crash (*krash*) a collision

force (*fōrs*) a push or pull that can produce a change in motion of something; that which causes or tends to cause an object to accelerate or decelerate; strength, power, vigor

injury (*in' jūr ē*) hurt or damage, harm

prevent (*pri vent'*) to keep or stop from happening or to keep from doing something

restraint (*ri strānt'*) something that restrains or holds back

2. The term crash is now used instead of accident when describing a motor vehicle catastrophe. Most motor vehicle crashes are preventable; accidents are not. Discuss ways in which motor vehicle crashes and resulting injuries can be prevented.

3. Discuss how fast 40 miles per hour is. (Give an example of a 40 mile per hour zone around your location.) What if a car is going faster? What might happen? Discuss how high a five story building is. Think of examples in your area.

4. Discuss other types of safety harnesses and people who use them, like construction workers, race car drivers, etc.

HOW A SAFETY BELT WORKS

Now imagine that person on television was wearing a bungee cord around his waist. If he falls off the roof, he'll be restrained. He won't fall as far and he won't crash into the ground. The bungee cord saves him.

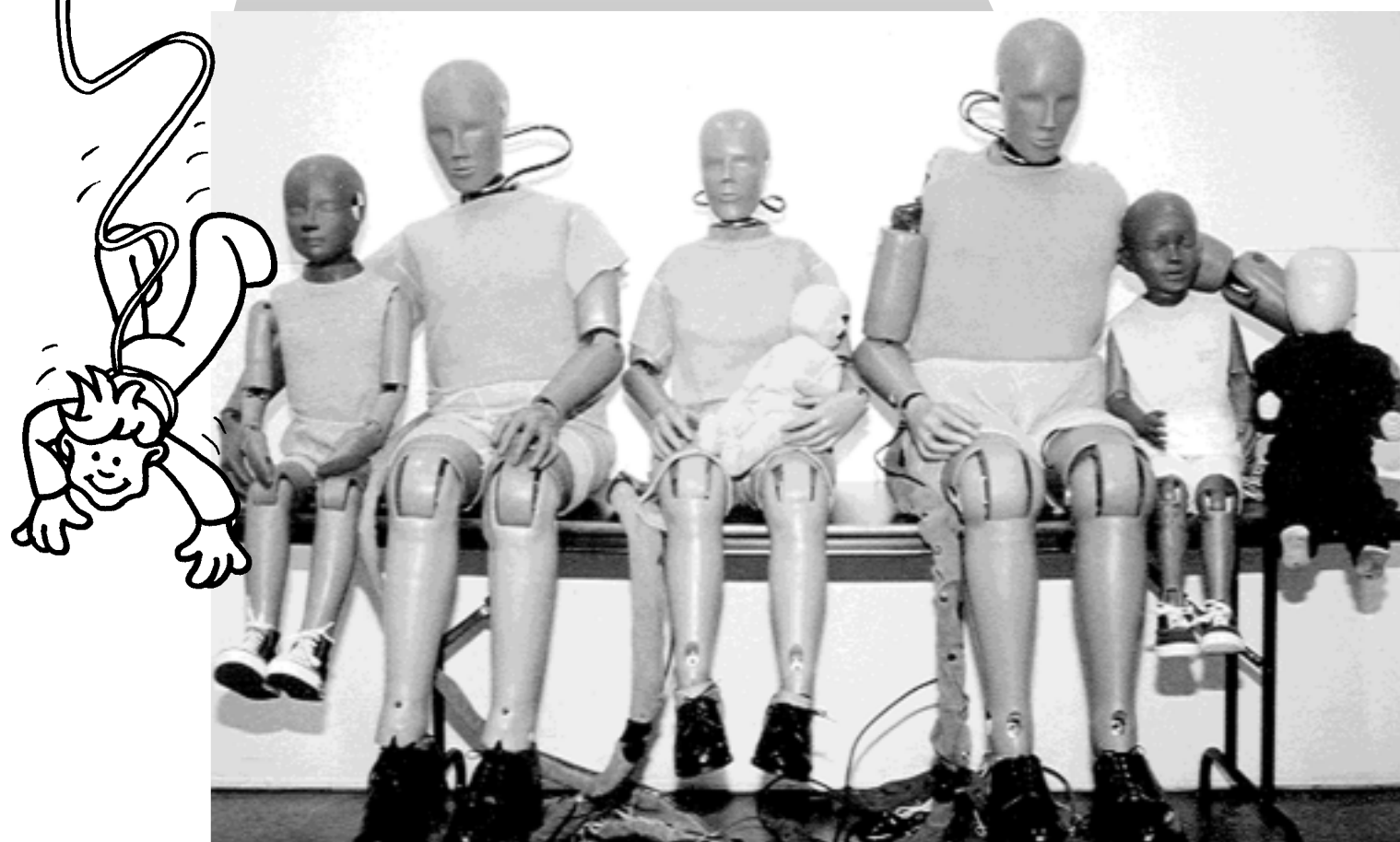
And that's exactly what a safety belt can do for you. Safety belts **restrain** you in the car. They hold you back so you won't move as far in the car.

They stop you from being thrown outside of the car or crashing into something inside the vehicle. They can **prevent** you from being injured or can even save your life.

But safety belts won't work unless you wear them! Since you never know when you might be in a crash, you must wear a safety belt every time you are in a vehicle, no matter how far you go.



Vince and Larry are the famous crash test dummies. However, dummies that look more like the ones below are used to test safety features in cars. This family of dummies includes adults and children.



5. Discuss other safety features that might be in a vehicle.

OTHER SAFETY FEATURES

Safety belts are not the only feature in a car that helps protect you in a crash. Headrests, padding, dashboards and the frame of the car also help. Another example is airbags. Does your car have airbags? Some people think that because they have an airbag, they don't need to wear a safety belt. Well, they are very wrong. Even if you have airbags, you must use a safety belt. If you were to have a crash while you were not wearing a safety belt, you could



be injured by the airbag itself. As a matter of fact, children should not travel in the front seat if your car is equipped with air bags. They should always travel in the back seat to help prevent injuries.

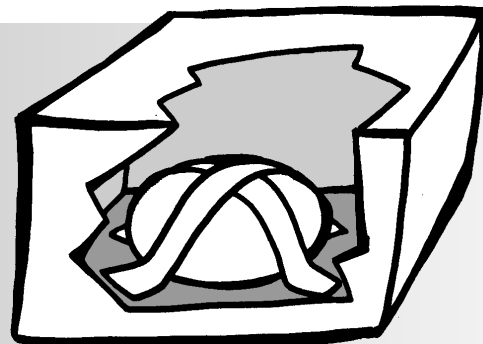
YOUR TURN

This activity will demonstrate what happens in a crash and why it is important to be restrained. You will need the following:

- An egg or two
- A lunch box or other container
- Duct or masking tape
- Paper towels

Place the egg inside the box.

Crash the box into a wall, desk or other object in your classroom, by forcefully sliding it on the floor. *What happens to the egg?*



Now, get another egg.

This time restrain the egg by taping it to the bottom of the box with two pieces of tape.

Repeat the crash. *What happens this time? Why is the restraint you made for the egg like the seat belts in your car?*

7. This egg-dropping activity may be a little messy, but it gives good hands-on problem solving experience for the student. Students may enjoy working in teams for this activity. Having extra eggs on hand may be helpful. If the second egg cracks, discuss the fact that not all crashes are survivable and, although the egg was "injured," it would have been worse unbelted.

6. As technological advances are made, changes in vehicular design reflect the concern about occupant safety. Air bags are one advancement which unfortunately have proven a dangerous safety feature for children. When air bags deploy, they do so at approximately 200 miles per hour. A number of fatalities have been associated with children sitting in front of passenger side air bags. Currently, it is recommended that all children sit in the back seat. If an older child must sit in the front seat, the child must be properly restrained and as far back from the air bag as possible. Whereas air bags hit most adults in the chest, a deploying air bag hits a smaller child in the neck and head at approximately 200 miles per hour. Ask how many children ride in a vehicle with passenger side air bags (their own, friends, family, in carpools, etc.). If they don't know— look for S.R.S., Supplemental Restraint System, on the dashboard. Where do they sit in the vehicle?

ON YOUR OWN

Design the safe car of the future. You can do this by drawing a picture or describing its features in a paragraph. You can also have a contest with your classmates to make a safe car of the future. Here's what you'll need to do:

- *Take a shoe box, another small box, or some kind of container—this will be the frame of your car.*
- *Take an egg—the egg will be your passenger.*
- *Your job is to add features to the car to keep your passenger from being injured.*
- *Your features can be anything—like styrofoam, paper, rags or tape.*
- *Drop your car from a one story landing at your school.*

*Whose car protected the egg the best?
What features did that car have?*

SAFETY FACTS

Car crashes are one of the leading causes of death and injury to children.

Safety belts save lives.

Safety belts should be worn low and snug across the hips and across the chest.

Children should sit in the rear seat, far away from a passenger side airbag, and be properly restrained.

