**During the video**  
Directions: To help you remember the key science concepts discussed during the video, fill in the blanks or circle the correct answers.

What is the first scientific discipline that comes to mind when you think of car crashes? It’s probably physics because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ govern what happens to a vehicle in a crash.

But if we want to understand the effects of a crash on a human body, we need look at what occurs when physical \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are applied to organs, tissues and cells, and this happens when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ meets \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the field of injury biomechanics.

**Crash anatomy**

Let’s start with some basic anatomy. The human body contains more than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells. The body is structurally organized into four levels: \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The body contains four large, fluid-filled spaces called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that house and protect the major internal organs.

**The three collisions**

The first collision is between the car and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The second is between the driver and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. And the third is between the driver’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the inside walls of his or her \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

What do you think will happen to the brain during impact?  
Circle one: Will it move forward, move backward, or stay in the same spot?

The initial movement of the gel or brain is toward the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the skull.

**Newton’s Three Laws of Motion:**

**What does Newton’s First Law of Motion say?**

**What does Newton’s Second Law of Motion say?**

**What does Newton’s Third Law of Motion say?**

ANSWERS:

**During the video**Directions: To help you remember the key science concepts discussed during the video, fill in the blanks or circle the correct answers.

What is the first scientific discipline that comes to mind when you think of car crashes? It’s probably physics because \_\_\_\_\_\_**Newton’s laws of motion**\_\_\_\_\_\_ govern what happens to a vehicle in a crash.

But if we want to understand the effects of a crash on a human body, we need look at what occurs when physical \_\_\_\_ **forces** \_\_\_\_ are applied to organs, tissues and cells, and this happens when \_\_**\_Pphysics**\_\_\_ meets \_\_\_**Biology**\_\_\_\_\_\_\_\_\_ in the field of injury biomechanics.

**Crash anatomy**

Let’s start with some basic anatomy. The human body contains more than \_\_\_100 trillion\_\_\_ cells. The body is structurally organized into four levels: \_\_**cells\_\_, \_\_\_tissues\_\_\_, \_\_\_organs\_\_\_, and \_\_\_\_organ systems\_\_\_\_.**

The body contains four large, fluid-filled spaces called \_\_\_\_**body cavities**\_\_\_\_ that house and protect the major internal organs.

**The three collisions**

The first collision is between the car and the \_\_\_**wall**\_\_\_. The second is between the driver and the \_\_\_\_**car’s interior**\_\_\_\_. And the third is between the driver’s \_\_\_\_**internal organs**\_\_\_\_ and the inside walls of his or her \_\_\_\_**body cavities**\_\_\_\_.

What do you think will happen to the brain during impact?  
Circle one: Will it move forward, **move backward**, or stay in the same spot?

The initial movement of the gel or brain is toward the \_\_back\_\_ of the skull.

**Stating the three laws**