

**Lab 1 Student Worksheet - Net Force**

1) Find the Net Force on each car below and explain the motion.

**2,000N**



**3,000N**



Net Force: \_\_\_\_\_

Motion: \_\_\_\_\_

**2,000N**



**1,500N**



Net Force: \_\_\_\_\_

Motion: \_\_\_\_\_

**2,000N**



**2,000N**



Net Force: \_\_\_\_\_

Motion: \_\_\_\_\_

2) Draw the forces on Jeff's car from the video at the time of impact. Explain your reasoning.

## Lab 2 Student Worksheet - Law of Inertia

1) What types of patterns did you notice with all of the activities?

2) Did the mass of the object make a difference in the activities? Explain.

3) You're in a car, holding a drink and the driver stops quickly. What happens to your drink? Why?

4) Compare pushing an empty shopping cart with one filled with several stacks of water bottles. Which cart is easier to start? Which cart is easier to return? Explain.

4) Write two or three sentences that could be used to explain all of your observation with one explanation.

6) A car rolls across the floor with no friction. What is the net force on the car?

7) How could the information from this activity be used to help solve the Challenge Problem? **(Find a way to reduce the force on the driver.)**