Exploring Momentum & Impulse using video games
Part 1
(momentum)

1st Trial Vehicle type: Weight _____ convert to kg _____

Initial Speed/velocity _____ convert to m/s _____ Final Speed/velocity _____ convert to m/s _____

Time difference:_____ (the change in time to go from initial to final as seen on game)

Object interacting with above vehicle (this one must be stationary):

How did the above occurrence cause the speed to change?

2nd Trial Vehicle type: Weight _____ convert to kg _____

Initial Speed/velocity _____ convert to m/s _____ Final Speed/velocity _____ convert to m/s _____

Time difference:_____ (the change in time to go from initial to final as seen on game

Object interacting with above vehicle (this one must be moving- replicate above information):

What do you notice about the change in speed/velocity of the above two trials?

Part2 (impulse)

$$\mathbf{F} = \frac{\quad}{\mathbf{t}}$$

1st Trial

from the game and the difference in momentum solve for the force acting on the car.

2nd Trial

the difference in momentum solve for the force acting on the car.

What does the above force represent on each car?

What would happen if the force increased or decreased?