Virtual Momentum
Physical Science and Technology

Your Name:

1. Go to the following web site:
 http://phet.colorado.edu/sims/collision-lab/collision-lab_en.html
Check the "Show values" box in the parameters (top right) and try the simulation. After you have figured out how the simulation works, complete the following data table by running the simulation six times with different parameters:

Type of Collision:	Mass of Second Cart:	Speed of Left Hand Cart After Collision:	Speed of Right Hand Cart After Collision:
Elastic	3 kg		
Elastic	1.6 kg		
Elastic	0.5 kg		
Inelastic	0.5 kg		
Inelastic	3.5 kg		
Inelastic	4.2 kg		

2. Using the data you collected and your understanding of momentum, answer the following questions:
    a. Why does the second cart move more quickly than the first cart sometimes and more slowly than the first cart sometimes?

    b. Why does the velocity of the first cart slow down when there is an inelastic collision?

    c. What do you think would happen if the mass of the second cart were increased to 10,000kg? What would happen if the mass of the *first* cart were increased to 10,000 kg?

    d. How does this simulation help you understand how your momentumometer will work?