Name:_____

Pre-lab 4: Conservation of Momentum

1. What must be true about a collision in order to apply conservation of momentum?

2. A large glider of mass 600 g travelling east at 2.0 m/s is struck by a small glider of mass 200 g travelling west at 3.0 m/s. Immediately after the collision, the small glider is found to be moving east with a speed of 4.5 m/s. Draw "before" and "after" pictures for this collision and determine the speed and direction of the large glider just after the collision.

3. Using the masses and initial velocities above, what would be the final speed if the collision had been <u>completely inelastic</u>? (You need to draw a new "after" picture here).