

Data Collection and Processing: (continued)

6. Show all your work (list, equation, substitutions with units, unit cancellations, and final answer) and calculate the momentum of Cart 1 before the collision.

7. Show all your work (list, equation, substitutions with units, unit cancellations, and final answer) and calculate the momentum of the two carts after the collision as they travel together down the air track.

Analysis:

1. Compare the total momentum before the collision with the total momentum after the collision.

Conclusion:

1. Within the precision of the lab, does our data support the idea of conservation of momentum?

Calculations:

An air cart with mass of 250 g travels at 1.25 m/s and collides with a second stationary air cart that has a mass of 350 g. after the collision, the 250 g cart remains stationary, and the 350 g cart moves down the track. Calculate the speed of the 350 g cart after the collision. (Be sure to make a list, show the equation(s) used, and show all substitutions (with units and unit cancellation).