Air Cart Transfer of Momentum Report

Physical Science and Technology

This report is an individual activity. The purpose of this report is for you to clearly show all the measurements, calculations, and conclusions from the Air Cart transfer of momentum activity that you carried out in class. Please answer all questions in complete sentences, where appropriate. When you are through, verify your work with an instructor, then print and turn in.

Section I: Measurements

In this section, carefully document all of the measurements you took when your air cart collided with another air cart. Make sure to show all units and directions (where necessary) and indicate which cart the measurement applies to and when the measurement was taken relative to the collision. You can put your data into a table if that is helpful or you can simply list the values you found.

Example:

mass of air cart 1: 812.3g / 1000 = 0.8123 kg

distance traveled by cart 2 after the collision: 72 cm /100 = 0.72 m (to the right)

Section II: Calculations

In this section, you should show all the calculations you made for this activity. Each calculation should clearly show the formula you used (variables only), the answer you found with units and direction (where necessary), which cart the measurement is for, and when the measurement was taken relative to the collision. You do not need to use the 5 steps, but you should still clearly show your work.

Example:

$v = d/t$

velocity of air cart 1 before the collision = 0.53 m / 0.5 s = 1.06 m/s (to the right)

Section III: Conclusion

In complete sentences (and paragraphs if necessary), explain how your measurements and calculations clearly show momentum being transferred as a result of the collision between the carts. Your goal in this section is to convince your reader that a) you know what momentum is and b) you understand what it looks like when momentum is transferred from one object to another.