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## Unit 5: Newtonian Mechanics -Linear Momentum

**LAB: Conservation of Momentum** 

Objective: Plan data collection strategies to test the law of conservation of momentum
in a two-object collision that is elastic or inelastic and analyze the resulting data
graphically. <sup>1</sup>

Hypothesis: State your hypothesis.

Safety: Take care that the cars stay on the tracks.

Background: On what principles did you base your hypothesis and your procedure?

## Equipment:

• Options: PASCO system, PASCars, force sensor, force sensor mounting bracket, motion sensor, track, extra masses, and any additional materials you choose.

<sup>&</sup>lt;sup>1</sup> Note: No energy analysis is called for. This is Learning Objective 5.D.2.2.

Procedure:
Data Tables, Graphs, and Calculations: Note – Create your data tables and graph(s) in Excel and attach them. (Include below an error analysis that will help you conclude about your hypothesis.)
Conclusion:  • What can you conclude? Justify your conclusion(s) with evidence.
Were there errors? If so, account for them.