

Objective

The goal of this exercise is to

- verify the theoretical prediction that linear momentum is conserved in both inelastic and elastic collisions
- explore the validity of the theoretical assumption that kinetic energy is conserved in elastic collisions
- determine the degree to which kinetic energy is conserved in elastic collisions involving magnetic repulsion, spring repulsion, and other nominally conservative interactions
- give you experience with the experimental apparatus

Materials

- Vernier [Lab pro](#) and [photogates](#) or range finders
- Red & blue Pasco carts, additional weights, and tracks
- Gold & purple carts and air tracks
- Ruler

Theoretical model

You'll provide a detailed theoretical analysis in your report.

Procedure

You'll design the procedure and provide detailed descriptions in your report.

Post-lab & report

- Attach this sheet as a cover sheet. Do not feel you need to duplicate the information in this cover sheet in your write-up.
- Attach the generic laboratory rubric and checklist as an appendix. Your instructor will refer to those when grading. Use these as a guide to writing your report.
- A photo or careful sketch of your experimental apparatus can be very useful to the reader.