Lab Safety Policies

- Don’t stand on lab chairs
- Don’t sit or stand on lab tables
- No dangling jewelry or loose clothes.
- No open toed shoes.
- Be careful with sharp corners.
- Recall location of phone and first-aid kit.
- Report ALL injuries
## Overview of Labs

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Roller Coaster Dynamics 2:
Energy Losses - 2
Agenda

- Experiment to calculate Static friction coefficient
- Work on the post-lab data analysis for circular arc and half-horizontal loop while waiting for your team’s turn
Lab Activities (Part 1)

- **Lab Apparatus**
  - Ramp (Static Friction)

- **Group Rotation**
  - Data will be collected at the front table by each team.
  - Each team will take turns rotating to the table and collect data with one ball on a total of three apparatus.
  - Each group will be notified when it is their turn to rotate to the front table.
  - Each group should record their data on the printed worksheet at the front table and on the computer at the instructor’s station.
Ramp Apparatus - Slippage

- In the lab you will determine the value of angle, $\beta$, at which the conjoined balls begin to slide down the ramp.

- From $\beta$ you can calculate $\Theta_c$, the angle above which you can expect slippage of a single ball on your roller coaster (with increased energy losses). The calculation is in the lab procedures.
Vertical Loop Apparatus – G force

For consideration only, you will not be actually using this device in the lab.
Assignments and Reminders

- The post-lab data analysis should be emailed to instructor by midnight on Friday.

- Instructor will send your team comments based on your calculations. Therefore you will have the correct results for the memo.

- Weekly lab checklists, Memo Grading Guidelines and Lab Participation Agreement must be included with the weekly memos.

- Lab Memo 2 (team) is due in Lab 3

- Update Project Notebook