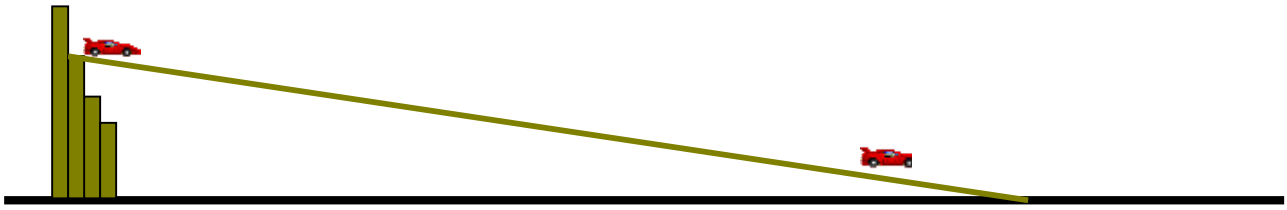
Advanced Physics **Name _____**
Semester 2 Final Exam Lab Practical **Mod _____**

How Hot Are Your Hot Wheels®?



One final lab challenge… this time you will be predicting the velocity of a Hot Wheels car as it rolls down a ramp. Here is how this challenge will work:

- Your group will have no more than 40 minutes to gather any data you need.
- I will impound your car and position a photo gate somewhere along the ramp.
- Your group will have no more than 20 minutes to make the velocity prediction.
- When you are ready, I'll give you the car back and we'll test your prediction.

Your group may use:

✓ Hot Wheels of choice (even your own) ✓ Track ✓ Wooden Ramp

✓ ramp support ✓ balance ✓ Force sensor ✓ metersticks ✓ stop watch

✓ photogate

✓ **ASK about other equipment – NO Motion detector (Hot Wheels is too small) or Video analysis.**

To be turned in on the back:

✓ Heading
✓ (1 pt) Purpose
✓ (2 pts) Diagram—Labeled, both parts
✓ (4 pts) Procedure – HOW you will predict the velocity based on the data you gather.
✓ (3 pts) Data – both parts
✓ (4 pts) Analysis – Include ALL of the calculations, appropriate charts/diagrams, any graphs.
✓ (2 pts) Results – record your trials and calculate a percent difference.
✓ (2 pts) Accuracy – based on:
  - 4 points for a percent difference 2.5% or less .
  - 2 points for a percent difference of 2.5% - 5%.
  - 0 points for a percent difference greater than 5%

TO HELP YOU PREPARE, LOGIN INTO SCHOOLOGY AND COMPLETE THE FINAL EXAM LAB PRACTICAL "QUIZ".

YOU MAY END UP AS A GROUP OF '1' IF THIS IS NOT COMPLETED AHEAD OF TIME.