

## Dune Buggy Lab

You must design a laboratory experience and perform it using the materials provided (car, 2 m stick, tape measure, stopwatch, post-it notes) that can answer the basic questions of bodies moving at constant speed. Your lab report will be graded on the following criteria. You will run 4 variations of this experiment, moving from origin, away, half speed and alternating direction. You will run multiple trials and average. Use the standard deviation to set error bars. Assign each person in the group to a data table, graph and analysis of that graph. Team members' initials should appear on that section. The team should then review the findings of each member. One lab will be turned in per group.

## Dune Buggy Grading Guide

Experiment	Pos/Earned
Purpose (Hypothesis about speed, time and distance.)	2 pts.
Identify variables(with units)	2 pts.
Procedure (equipment, set-up, labeled sketch, numbered steps) <ul style="list-style-type: none"> <li>• Start with origin at 0.0m</li> <li>• Start with origin at 10.0m</li> <li>• Start with origin at 0.0 m and use only one battery</li> <li>• Start with buggy heading toward wall in hallway</li> </ul>	4 pts.
Data table (with three trials, units, proper sig. figs.)	4 pts.
Graphs, Graphical Analysis or EXCEL (title, axis labels, units, fit line, error bars)	8 pts.
Analysis - Algebraic (trend line and slope)	6 pts.
Conclusion (relationship between time, distance, displacement, speed, ave. & instantaneous velocity, possible error.	4 pts.

Turn this page in along with lab report.