

Title: Linear Motion

Objectives:

- to investigate linear motion
- to differentiate between speed and velocity
- to explore types of motion exhibited by toy vehicles.

Materials:

- toy tractors, cars, trucks, and planes
- tape measure (cm)
- stop watches

Procedure:

1. Design a procedure to determine whether the toy tractors, cars, trucks, and planes move with constant velocity across a smooth surface.
(Hint: use at least 2 stop watches!)
2. Write out your procedure and construct appropriate data charts.
(*You will need at least 5 trials per vehicle.*)
3. Run the procedure with the tractor and one or more of the other vehicles.

Results: Data Charts and Graphs (*You get to design your own!*)

Discussion/Analysis:

Consider some or all of these questions in your discussion/analysis.

Remember to support all statements with data and recorded observations!

- Compare/contrast the movement of the tractor with the other vehicles.
- Were you measuring speed or velocity?
- Did any of the vehicles move at constant velocity? Did they accelerate, decelerate? When?
- Provide an explanation for the differences in motion (if any) among the vehicles.
- Comment on how effective your procedure was at determining whether or not the vehicles move at constant velocity.
- Comment on any other observations you made.
- Indicate sources of error.
- Suggest improvements for your procedure.

Conclusion: 1 sentence testable statement. (*Remember: Use 3rd person and make this short!*)

Reflection: Personal statement about what you learned from the lab.

