Lesson 2 Modified Slides

Motion Vocab and Graphing Motion Intro

Scalar vs. Vector

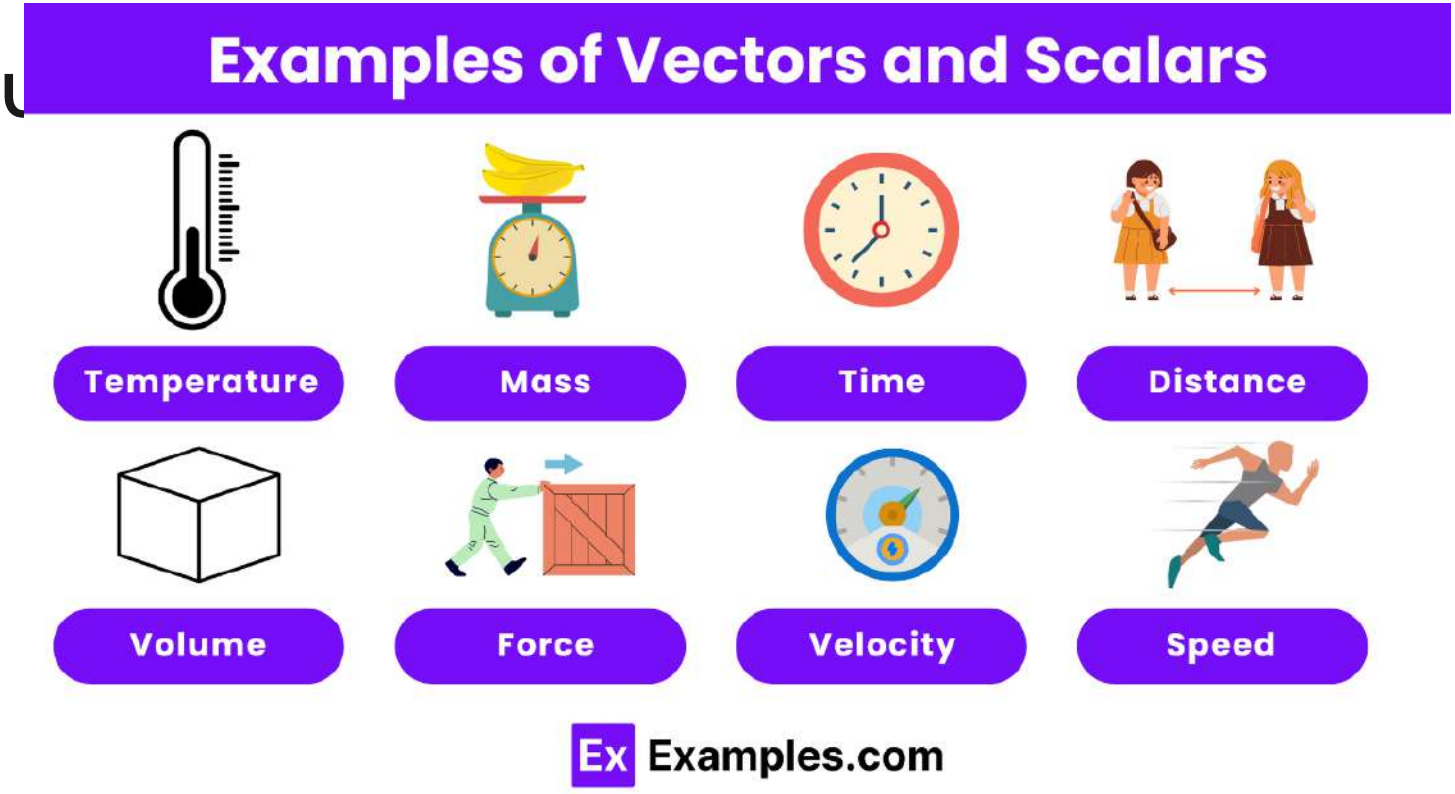
- 1 gram of salt
- 100 milliliters of distilled water
- 5 volts
- 0 degrees Fahrenheit
- 10 meters
- 100 pounds
- 400 feather

Scalar vs. Vector

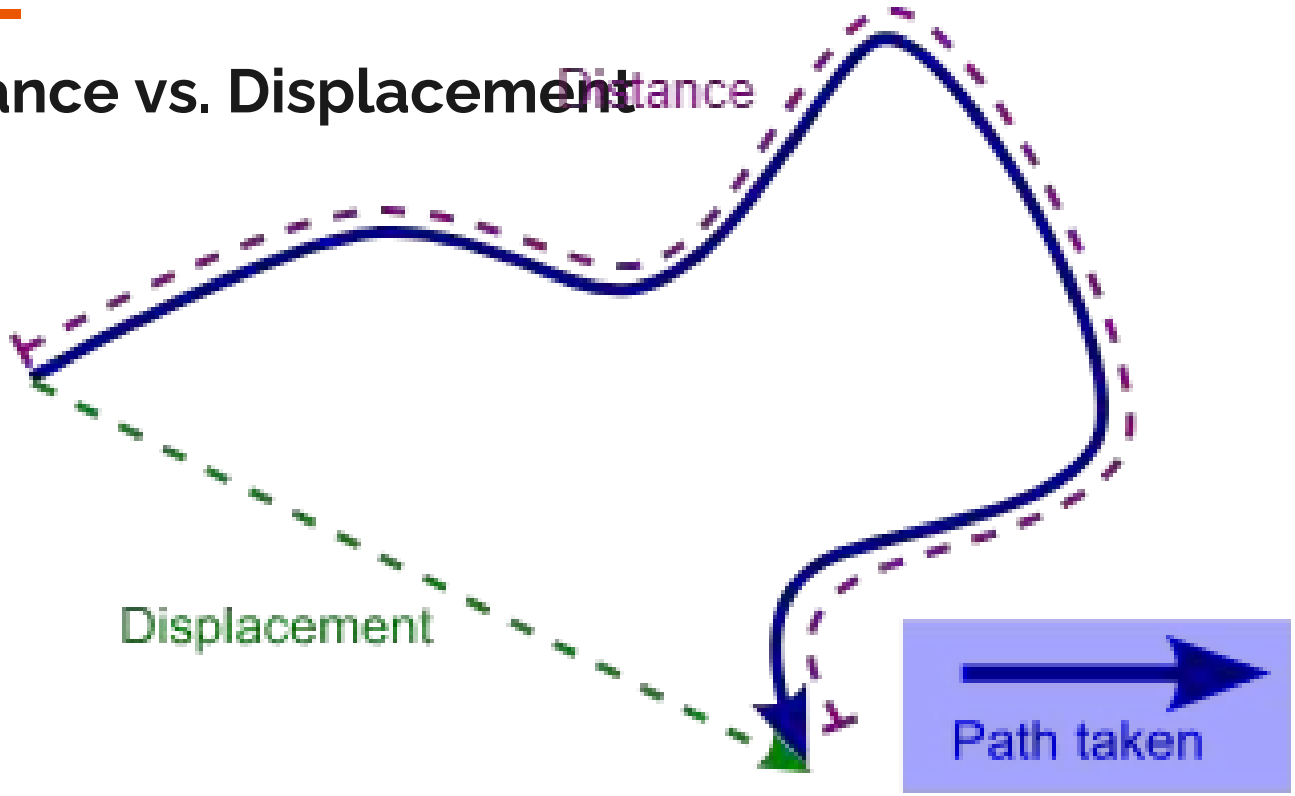
- +70 miles
- 70 miles west
- -70 miles
- 70 miles 34 degrees SE
- 70 miles down

a. 5 m
b. 30 m/sec, East
c. 5 mi., North
d. 20 degrees Celsius
e. 256 bytes
f. 4000 Calories

Warm U

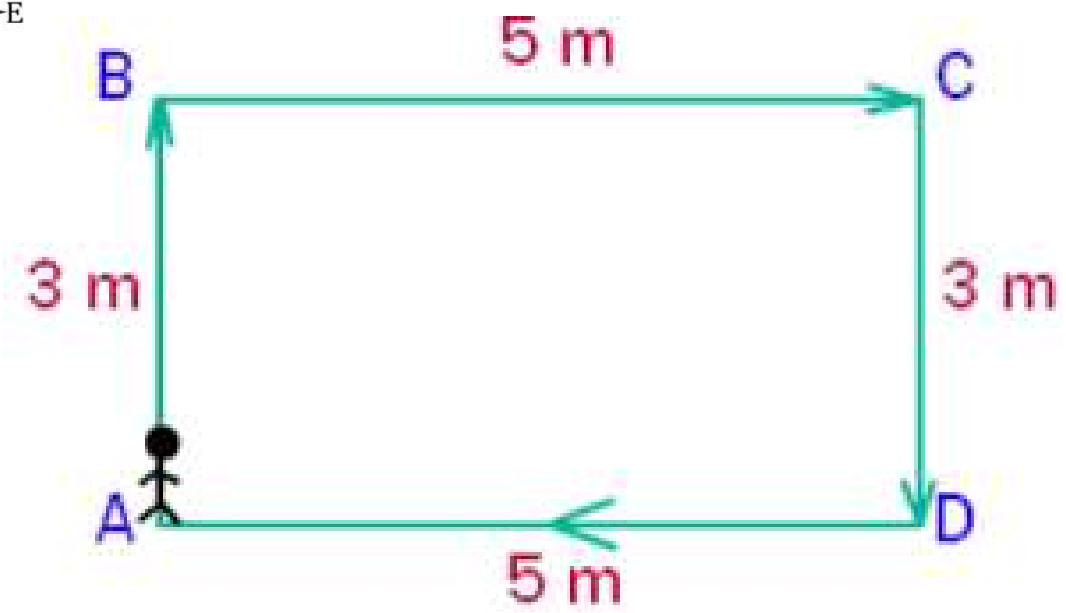

Examples of Vectors and Scalars
Temperature
Mass
Time
Distance
Volume
Force
Velocity
Speed
Ex Examples.com

Distance vs. Displacement

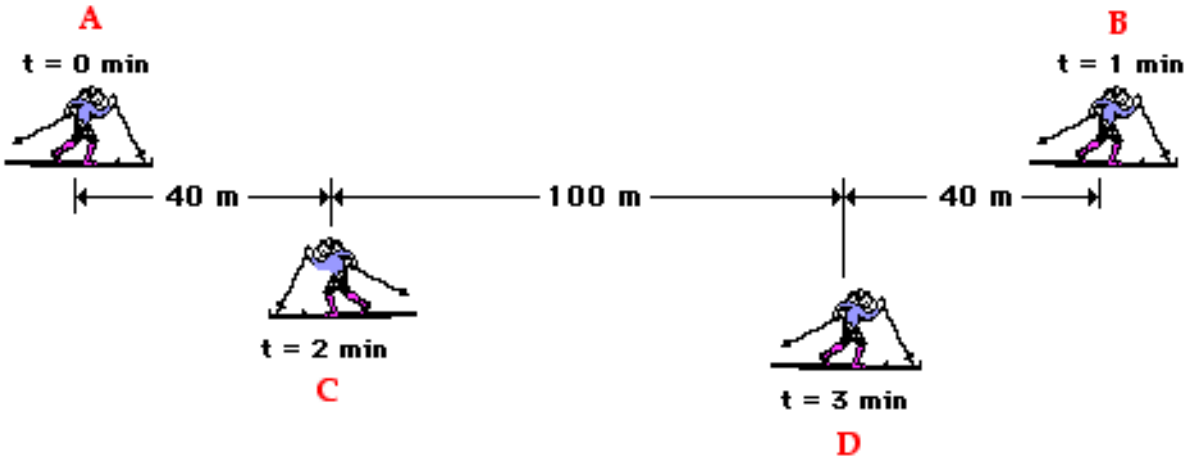


Practice

1. A -> B
2. A -> B -> C -> D
3. A -> B -> C -> D -> A
4. A -> D -> C -> B
5. A -> D
6. A -> D -> C



Warm Up 12/10



1. What is the distance traveled for each segment (A-B, B-C, C-D)?
2. What is the total distance?
3. What is the displacement (hint: look at the starting and ending time)?

Speed vs. Velocity

Speed = Distance/time

Velocity = Displacement/time (must still have a direction)

Note- we are finding average speed and velocity

Speed and Velocity

- A person drives 10 miles south in 5 minutes. What is your distance? Displacement?
  - Speed and Velocity?
- You drive 10 miles south, drop something off at your friends and then drive back 10 miles north back to your house. It takes you 20 minutes total (you stop and chat with your friend). What is your distance? Displacement? Total Time?
  - Speed and Velocity?

Independent Work Time

- Distance and displacement worksheet
- Speed and velocity worksheet

Warm Up 12/11

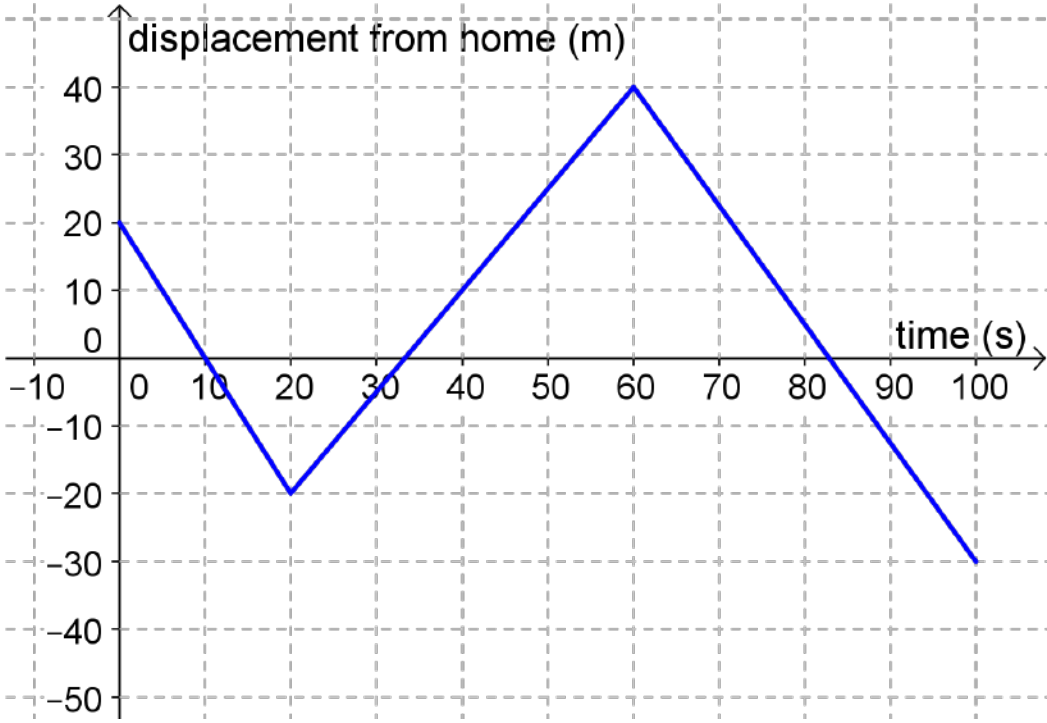
You walk 5 steps forward in 5 seconds, stop for 3 seconds and walk 5 steps back to your original position in 6 seconds.

1. Draw it out!
2. What is the distance you traveled?
3. What is your displacement?
4. What is your total time?
5. What is your speed?
6. What is your velocity?

Graphing Motion Lab

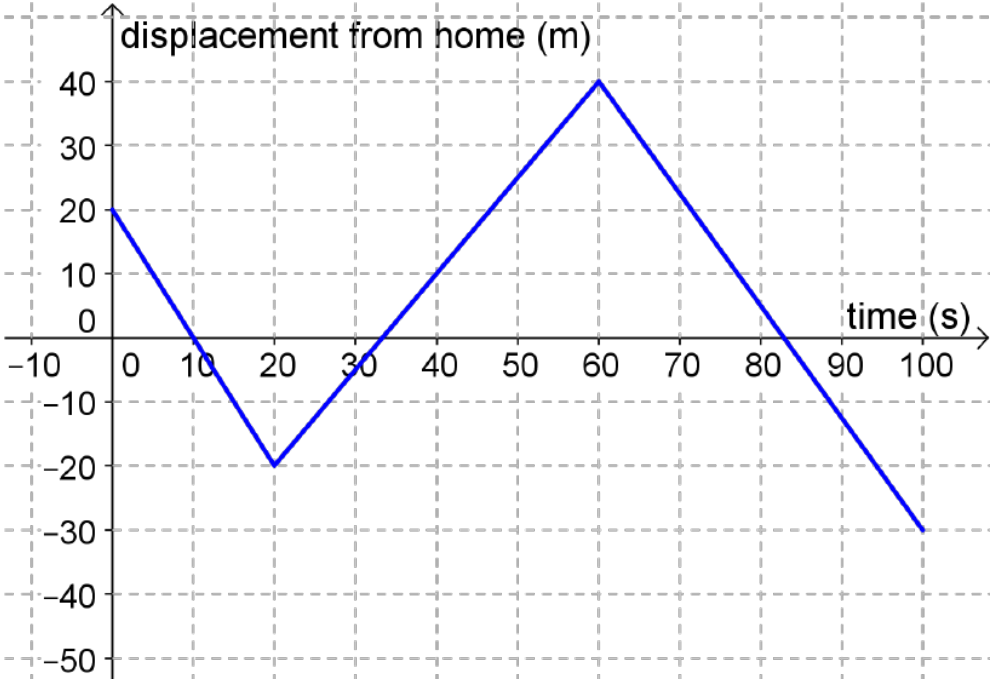
- Work in pairs for this lab
- Distance is in steps, time is in seconds (use timers if needed)
- Take data for each time interval (not overall time)- we will need this later

Write down 5 things you notice about this graph



Create A Table

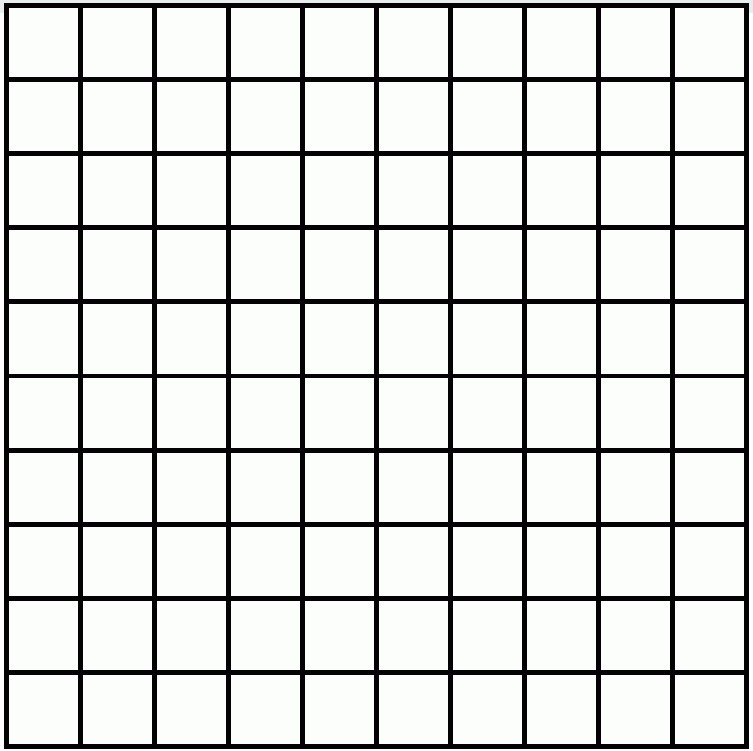
Time (s)	Distance (m)
0	



What is the total distance they traveled?
Displacement?

Graphing Motion

Time (s)	Distance (m)
0	0
1	2
2	4
3	4
4	4
5	3
6	2
7	1

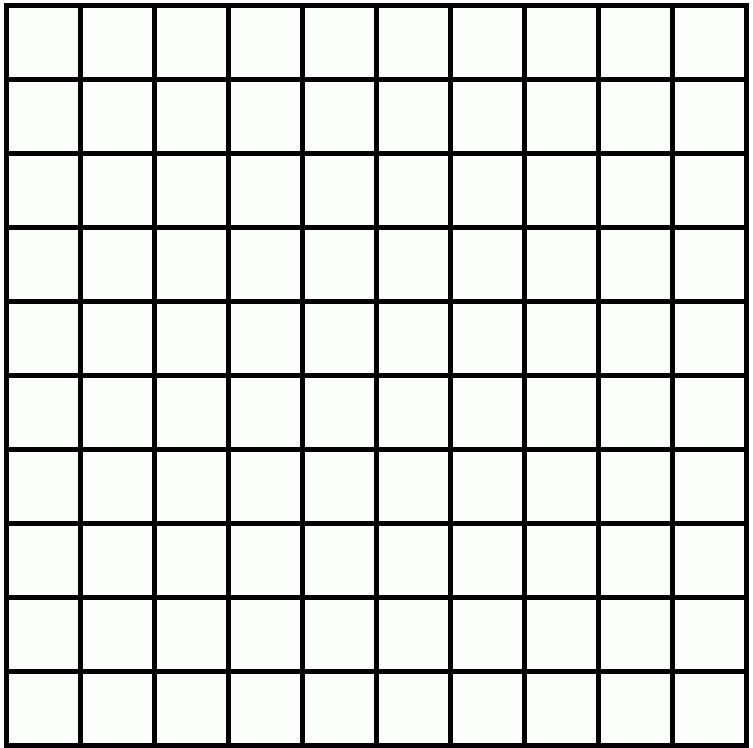


Make a motion diagram, find distance and displacement

Graphing Motion

Time (s)	Distance (m)
0	-2
1	0
2	0
3	5
4	10
5	4
6	-3
7	-5

Make a motion diagram, find distance and displacement



Graph this!

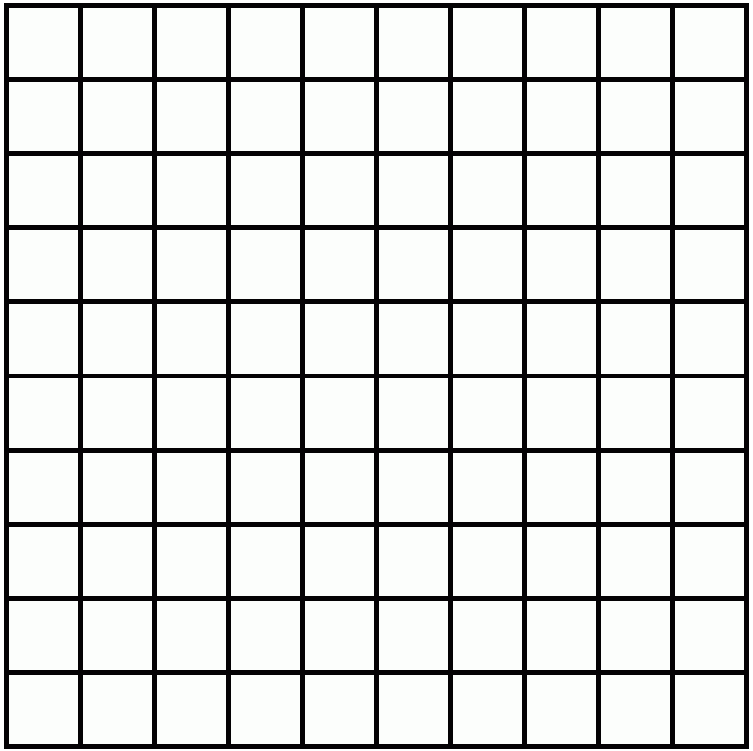
Scenario 1

- 5 forward steps in 7 seconds
- Stop for 5 seconds
- 5 backwards steps in 8 seconds

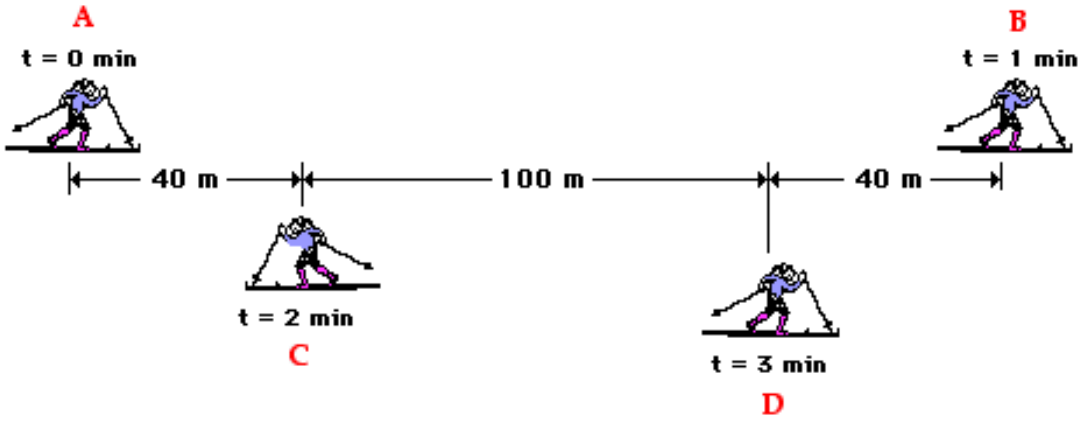
Total time?

Max Distance?

How do we graph?



Graph this!



Graphing Motion Lab

1. Complete your data and graphs on the graph paper with the 8 grids
2. Data should be organized and clearly labeled with units and show work for speed and velocity.
3. We will work on this on Monday as well.

Graphing Motion Lab

1. Complete your data and graphs on the graph paper with the 8 grids
2. Data should be organized and clearly labeled with units and show work for speed and velocity.
3. Staple your data table and graphs together and put in the Turn In Bin
4. If you finish, start working on the Vernier Tracking Practice on Google Classroom

We are in the HUB Digital Worksheet the rest of the week!

Physics 1/7

Agenda

Make sure you have turned in Calculating Reaction Distances from Friday and Grade Reflection on GC

1. Start Braking Investigation Lab- open up your Chromebook and look at the lab report

Braking Investigation Lab

- You will be in a group of 4-5 students
- You will have one of the three variables to investigation
- Complete Page 1 first and then you can start taking videos to track
- While you are working together, you must turn in your lab reports individually.

Braking Investigation Lab

- Complete video tracking
- Upload graphs to a shared folder
- Start tracking in Vernier Video Analysis
- Labs are Individual!

Monday 1/13

Monday-Wednesday- Full Days

Thursday- Half Day (Future Focus)

Friday- Half Day

Have you turned in your Braking Investigation Lab?

Newton's Law Video

- Communication
- Investigation