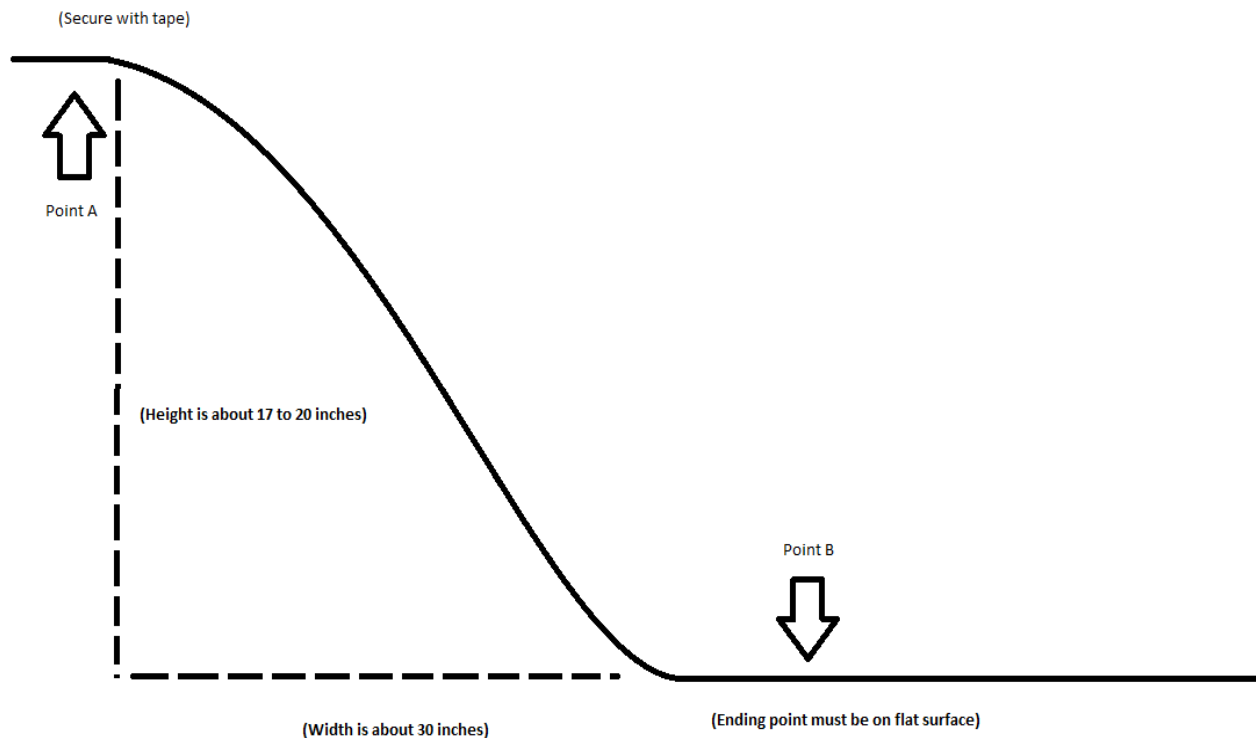


Velocity Track Worksheet Form A

Materials:

- Race Track Pieces [x__]
- Tape
- Calculator
- Stopwatch
- Marble



Directions:

1. Using a ruler, measure the length of one track piece. Write this down on the table below.
2. Create your track as seen in the diagram.
3. Determine a starting point A and ending point B, and mark it with tape. Calculate the distance between point A and B by taking the length of one track piece and multiplying by the number of track pieces in between the points. Start the car in the same position each trial.
4. Release the car. Do not push the car down the track because the data will be skewed.

5. Start the timer at the starting point, and stop the timer when it crosses the ending Point B. Write down your results.
6. Repeat Steps 1-5 an additional two more times.

Data/ Calculations

Useful Conversions:

1 mile = 1609.34 meters, 1 hour = 60 minutes, 1 minute = 60 seconds

	Inches	Meters
Length of 1 Track Piece	a =	b =
Distance Between A and B		

$(a \text{ inches}) (1 \text{ meter} / 39.37) = b \text{ meters}$

Orientation of the track: _____

Record your time in seconds to the hundredth decimal place.

	Seconds	Minutes
Time for Trial 1	x =	y =
Time for Trial 2		
Time for Trial 3		

$(x \text{ seconds}) (1 \text{ minute} / 60 \text{ seconds}) (1 \text{ hour} / 60 \text{ minutes}) = y \text{ minutes}$

Now determine the car's velocity for each trial.

Note: The velocity calculations are for the times from A to B and the units of velocity should be distance over time.

Trial Number	Velocity (m/s)
1	
2	
3	
Average	

Conceptual Questions:

1. What is the difference between speed and velocity?
2. Imagine you were pushing a toy car along a flat surface with a minimal amount of friction. What is happening to the car's velocity when:
 - a. you begin to push it from a standstill.
 - b. sometime after you let go of the car.
 - c. sometime after you let go of the car with no friction.
3. What is the value of having multiple trials?