Acceleration Lab

Objective: To calculate the velocity and acceleration of Carla on the skateboard.

Materials: Skateboard, meter stick, calculator, phone (time)/stopwatch, flat area, person on skateboard

Procedure:   
Safety first. Don’t fall.  
Place skateboards on the ground at a starting point.   
Measure out 10 meters. Label the ground where 1-10 meters are.

Carla gets on skateboard. Carla will push himself down the hall.

1st trial will be a constant rate.

2nd trial – kick off once and kick off again

3rd trial – one kick off

Eleni is going to videotape Carla going down the hall.

Data table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Dist. | Time (constant) | Velocity | Time (speeding up) | Velocity | Time Slowing Down | Velocity |
| 0m | 0 |  | 0 |  | 0 |  |
| 1m | .05 | 1/.05=  20 | .05 |  | .05 |  |
| 2m | .1 | 1/.05= 20 | .1 |  | .1 |  |
| 3 | .2 | 1/.1= | .2 |  | .2 |  |
| 4 | .25 |  | .2 |  | .2 |  |
| 5 | .3 |  | .2 |  | .4 |  |
| 6 | .35 |  | .3 |  | .6 |  |
| 7 | .4 |  | .3 |  | .6 |  |
| 8 | .45 |  | .4 |  | .7 |  |
| 9 | .5 |  | .4 |  | .9 |  |
| 10 | .55 |  | .5 |  | 1 |  |