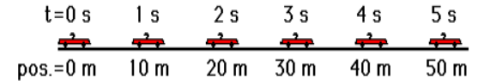


Kinematics

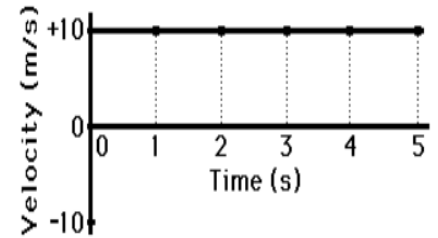
The geometrically possible motion of a body or system of bodies
Does not take into consideration the cause or effect forces.

Velocity vs. Time Graphs:

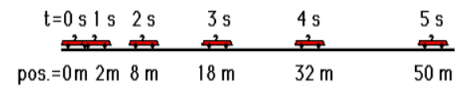
☒ Analyze the motion of a car with constant rightward (+) velocity, assume your analysis yields the following results:



- ✓ If you were to graph this data using a Velocity vs time graph it would look like the following:
- ✓ Not the slope of constant velocity is 0 (horizontal line) on a velocity time graph.
- ✓ Slope shows change, so if there is no change in y (velocity) there is no slope
- ✓ we saw a slope on a position vs time graph with uniform velocity due to a change in y (position)



☒ Analyze the motion of a car with a rightward (+), changing velocity. Assume your analysis yields the following results:



- ✓ If you were to graph this data using a position vs time graph it would look like the following.
- ✓ Not that the velocity is changing, increasing by 4 m/s every s
- ✓ This would be defined as an acceleration of 4 m/s/s or 4 m/s²
- ✓ The slope of the line is positive indicating positive acceleration
 - + slope = + acceleration (speeding up)
 - - slope = - acceleration (slowing down)

