- Motion is Relative
- You move $\qquad$ relative to the floor, but 30 km/sec relative to the Sun.
- If you drive at 60 mph and pass a car going 45 mph , your speed relative to the other car is $\qquad$ ?

○ If you drive at $\mathbf{6 0} \mathbf{~ m p h}$ and pass a car going $\mathbf{5 0} \mathbf{~ m p h}$, your speed relative to the other car is
$\qquad$ mph?

- Speed $=$ $\qquad$
- Velocity is the $\qquad$ and the $\qquad$ of an object in motion.

○ Does a car on a circular track going $\mathbf{2 0} \mathbf{m p h}$ have a constant velocity?

- Acceleration is the change in velocity over time.
- Acceleration $=$ change in $\qquad$ / $\qquad$
- Remember that change in velocity can be a change in $\qquad$ or
$\qquad$ -
- Galileo's Inclined Planes

○ Galileo put bells on a track at distances 1, 4, 9, 16. When a ball rolling down the track hit each bell they sounded as if keeping a steady beat. Why?


- Free Fall
- If an object is falling in a gravitational field, then it is
(at about $\mathbf{1 0 ~ m / s e c} 2$ ).

