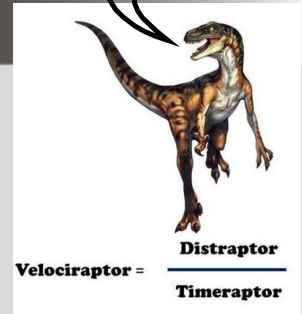




Notes:

Tap next to the pumpkins!




Position -

 $s(t)$ Position at any time t


Average Velocity -

 $\Delta v = \frac{\Delta s}{\Delta t}$ Slope of secant line


Instantaneous Velocity -

 $s'(t) = \lim_{\Delta t \rightarrow 0} \frac{\Delta s}{\Delta t}$ $v(t) = s'(t) = \frac{ds}{dt}$ Slope of tangent line


Acceleration -

 $a(t) = v'(t) = s''(t) = \frac{d^2s}{dt^2}$ Slope of tangent line to velocity graph


Speed -

 $|v(t)|$ Magnitude only! No directional component

Increasing Speed -

 $v(t) > 0$ OR $v(t) < 0$ Velocity and Acceleration
 $a(t) > 0$ OR $a(t) < 0$ SAME direction

Decreasing Speed -

 $v(t) > 0$ OR $v(t) < 0$ Velocity and Acceleration
 $a(t) < 0$ OR $a(t) > 0$ OPPOSITE directions