**Vocabulary**

**Displacement (ΔX):** This is the difference between the initial and final position of an object.

Ex: If you travel to school from your home, and then return home.

* Your displacement is calculated by your final position (home) minus your initial position (home).
* The standard unit for displacement is in meters (m).
* Since the final and initial positions are the same, your displacement is zero (0m).
* Displacement is strictly based on a position at a given period of time.

**Average Velocity:** This deals with the displacement over a period of time.

0 m/s

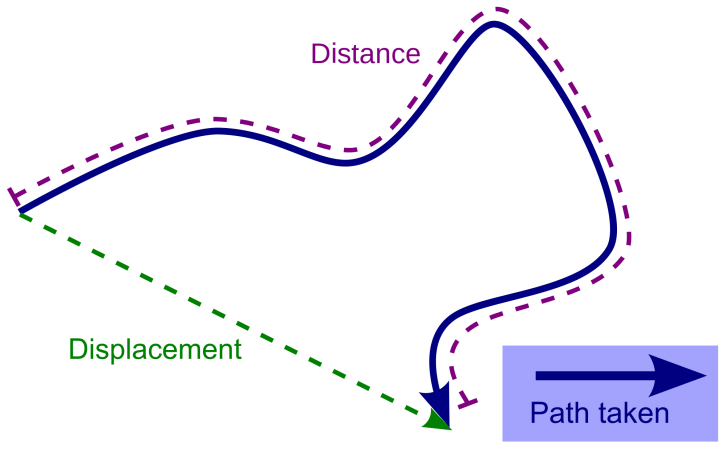
t

ΔX

time

Xf – xi

time



**Distance Traveled (S):** This is the total amount of distance that was actually traveled following a given path for a specific time interval.

Ex: Let’s say that it took you 700s from the time that you left home to the time that you returned home from school.

* Over that given period of time you may have made several stops (restaurant, run errands, went to school, hang out with friends, went back home).
* Those particular stops occurred at various time intervals, and required a specific amount of distance to be traveled in order to reach them.
* The total distance traveled from the time you left your home until the time you returned to your home was approximately 350m.
* Distance traveled is strictly based on how much you actually traveled over a given period of time.

**Average Speed:** This deals with the actual distance traveled over a period of time.

0.5 m/s

t

S

time

Distance

time