

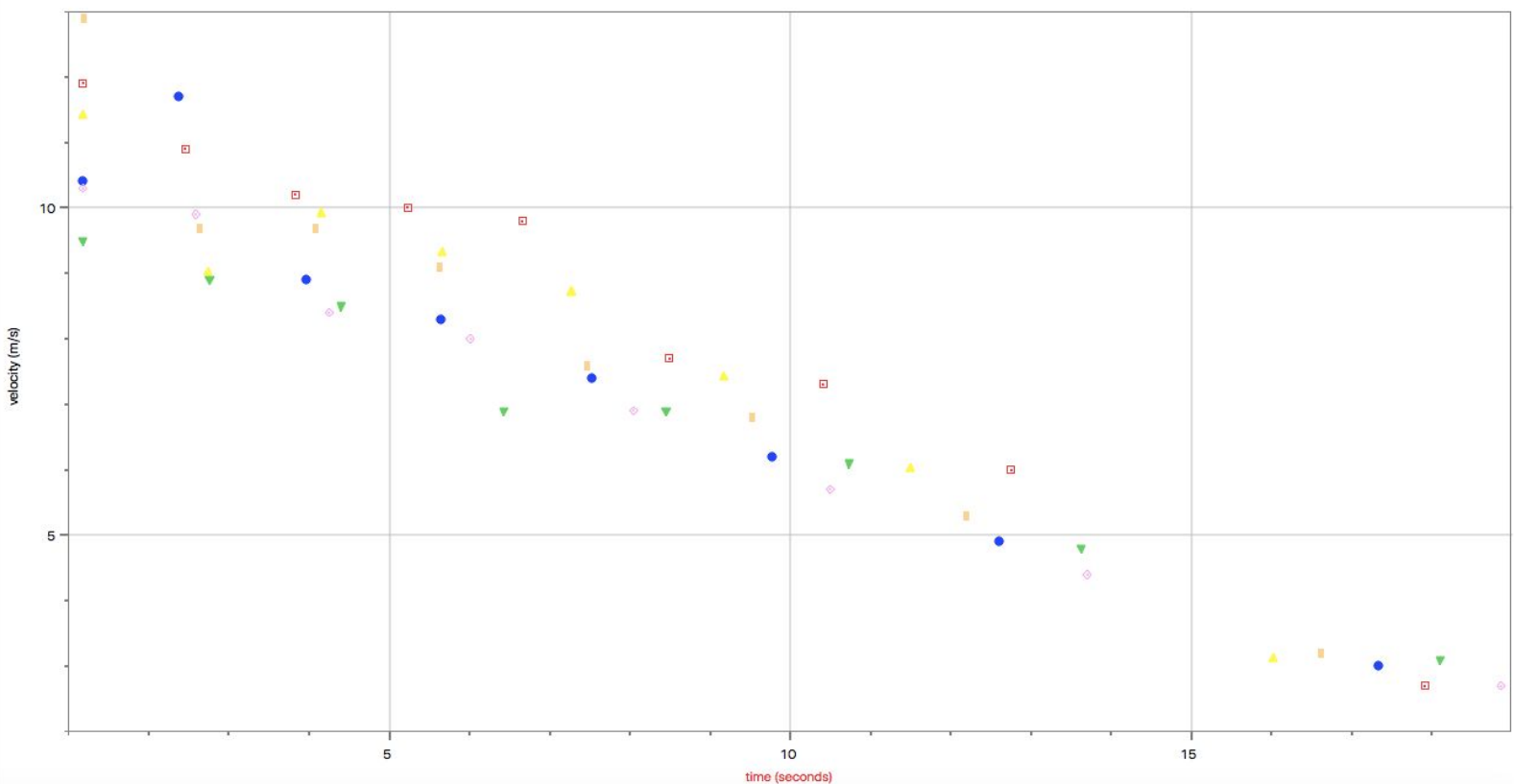
Pema Sherpa

Group Members: Grace Obergfell, Ryan Mitchener

Subway Investigation Lab on Velocity

My group and I were looking to research three questions. The first question was, while entering the station does the subway travel at a constant velocity for any part of its motion?, and the second question was, what is the maximum speed when entering the station? The question my group came up with was, how long does it take the train to go from full speed to zero speed?

Velocity-Time Graph



Based on the data plotted on the graph, I can see that the subway does not travel at a constant velocity for any part of its motion. As seen on the graph, the velocity of the subway progressively slows down as each car passes by. For train 2 which is colored in green, it looks like the train actually speeds up, but this is most likely due to human error. Train 4 which is colored in peach, is the highest data point plotted on the y axis which is velocity. This shows that train 4 was the fastest the train could move. The exact velocity was 12.9 meters per second which was the maximum speed of the train entering the station. For my groups own question, it can be seen on the graph that it takes approximately 19 to 20 seconds for the train to completely

stop because it is only moving at about 1 or 2 meters/per second after 18 seconds of its arrival, so it should only take about another second or so to make a complete stop.