Questions to think about for recitation 2.

A review from Chem 5.07 or 7.05

1.
$$E + S \underset{-1}{\overset{1[S]}{\rightleftharpoons}} ES \overset{2}{\rightarrow} EP \overset{3}{\rightarrow} E + P$$
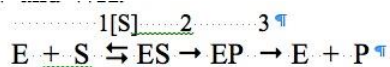
   The Michaelis Menton equation describes typical enzyme reactions where

   $$v = V_{max}[S]/(K_m + [S])$$

   Think about the four Eqns required to derive the Michaelis Menten Eq in terms of experimentally measureable parameters. What are they? What does steady state mean?
   Why are k_{cat} and k_{cat}/K_m the two important kinetic parameters? [If you are having trouble thinking these parameters, look at the rate constants that compose each of them in the simple case above.

2. Assume you have a way to monitor the disappearance of S, the appearance of P and the fate of ES, EP once the reaction is initiated.

Draw a picture with the concentration of each species indicated by the y axis and time, on the x axis. Show the region of steady state and the presteady state. Think about the kinetic and mechanistic information that can be obtained from each time frame on your diagram.

Throughout the course within class and the papers you will read, both steady state and presteady state kinetics are used to unravel how the biological systems work.