**Instructions for your #KIR assignments:**

1. They must be typed. They should be about half a page. No more than 1 page.
2. They must follow the guidelines in the example below and have the same organization. The letters R.E.A.L. mean something:

R. Provide a reference for the article. This should include the author and the source. All resources should be **within the last 5 years**.

E. Explain what the article is about. This should be the longest part of your #KIR assignment.

A. Describe how the article applies to what you have learned in class. Be as specific as you can with this part. Saying the article is about proteins and we talked about proteins in class will NOT be acceptable!

L. Provide a reason why you chose the article or if you learned something interesting from the article. If you are really into this, answer both!!

1. You must include a copy of the **first page** of the article that you used with the assignment. Please **staple it to the back**.
2. The article you chose must relate to biochemistry in some way. I will give you instructions on what topics to focus on for each assignment. If I do not provide instructions, you are free to choose whatever biochemistry topic you want!

Here is an example of a #KIR assignment:

Dr. Spencer

#keepingitreal assignment

9-11-18

R (resource): Arnaud, C. Swapping amino acids makes membrane proteins water soluble. *Chemical and Engineering News*, September 3, 2018, p. 7.

E (explain): Membrane proteins are hard to study due to their large number of hydrophobic amino acids and thus are not soluble in water. Zhang and coworkers devised a way of converting membrane proteins into water-soluble proteins by switching hydrophobic amino acids for hydrophilic ones. The process of switching out amino acids is called the QTY code (named for the amino acids that made the membrane proteins water-soluble).

A (apply): This paper applies what we have learned in class about the properties of amino acids as well as ideas about the solubility of substances in aqueous solution.

L (like or learn): I thought it was interesting that when they replaced the hydrophobic amino acids on the protein surface, the protein still required detergent to be soluble, but they kept trying until they replaced all the LIVF in the transmembrane domains and the protein finally became water-soluble.