**MODELING PROTEIN SYNTHESIS INSTRUCTIONS**

**Part A**

1. Layout and familiarize yourself with all the pieces of your kit.
2. Place the nuclear membrane in the middle of your table.
3. Place the remainder of the kit pieces where they belong, in relation to the nuclear membrane.
4. Use your homework from last night and/or your protein synthesis scramble to model the steps of protein synthesis in order.
5. You must use all of the words in the word bank as you discuss the process.

6. When you are done, you will have a chain of three amino acids. If you use the first letter of each amino acid, you will discover a “secret word.” When you know the “secret word” please keep it to yourself. Help others in your group with the process but let them figure out the answer themselves.

**Part B**

7. When everyone in the group can model the process and use the terms correctly put up your cup. The teacher will select, at random, one person from the group to demonstrate the model. If that person is successful the whole group will receive the maximum points. If not, your whole group may come in at lunch or after school today and try again.

**Part C**

8. When finished explaining to the teacher, work together with your group to discuss and answer the questions on the back of this sheet. Discuss and share ideas but each person write out their own answers.

* 1. Compare and contrast the two types of RNA. (location, structure, function)
  2. Think about the job of tRNA. What is the minimum number of different types of tRNA that a cell needs? Why?
  3. What are the advantages of having RNA molecules carry the instructions for making proteins to ribosomes instead of having the DNA molecule do it directly?

*If time remains you may help by “tutoring” other groups if they are having difficulty.*