**Introduction**

Welcome to the cell! Today it will be your job to create new proteins for this cell. As you may know, cellular functions are controlled by proteins and new proteins must constantly be made. The codes for proteins are stored in DNA. DNA is held in the nucleus of the cell; therefore you will start your journey there! After you have completed each step in protein synthesis, you will move on to the next cellular organelle.

Today you will:

1. Make an mRNA copy of a gene (a stretch of DNA that codes for a protein) –this process is called transcription
2. Make a protein strand from your mRNA sequence using the protein building blocks called amino acids—this process is called translation.
3. Fold your protein into its secondary and then its final tertiary structure—this is a post-translational modification
4. Sort your protein by adding a molecular “tag” which will target it to its final destination
5. Deliver your protein to its final destination—this is where you’ll be told more about the protein you have made!

**\*Make sure you read all the instructions at each station carefully!**