**DNA “Replication” – How do we make a copy?**

Recall that DNA is made up of four bases (A, G, C, T), each attached to a sugar, and a phosphate. Each base along with the attached sugar and phosphate is called a **nucleotide***.* We will be referring to nucleotides by their base type. Most of the DNA is inside the cell nucleus, and within a cell’s nucleus there are many unattached nucleotides around the DNA strands.

**Task – Part 1**

Your teacher will hand your group an additional stack of pre-cut nucleotides or additional copies of the Nucleotide Shapes handout for you to cut out. Assemble a strand of DNA that is at least 6 nucleotide in length, following the rules we have for the structure of a functioning strand of DNA. Leave the remaining nucleotides to the side. These represent free-floating nucleotides (phosphate + sugar + base) in the nucleus of the cell.

**Task – Part 2**

In our model of Meiosis, we learned that a body cell replicates its chromosomes so that it has twice the normal amount of chromosomes before undergoing meiosis and forming four daughter sex cells. As chromosomes are made of DNA, it must also replicate.

Your group task’s now is to attempt to replicate a DNA molecule. This will require some creativity and cooperation. Before getting started, brainstorm some about how this task might be accomplished. Think about other things that you know of that reproduce, or replicate. How do they do so?

Use your group’s paper DNA representation and unattached nucleotides to simulate the replication of DNA. When you feel like your group has successfully replicated the original DNA strand, demonstrate to your teacher. Draw a diagram and explain with words and pictures how your group replicated the original DNA strand on the back of this sheet. Be prepared to share.