

Recombinant DNA Worksheet

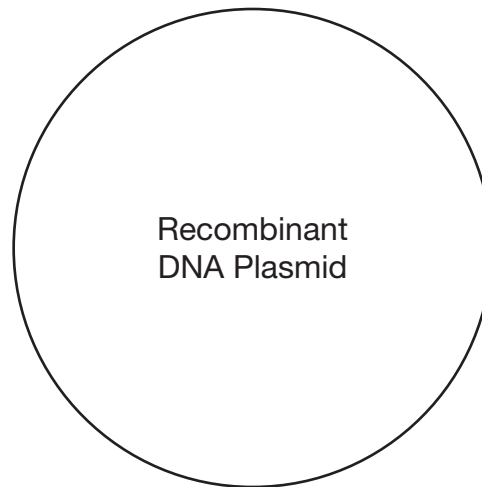
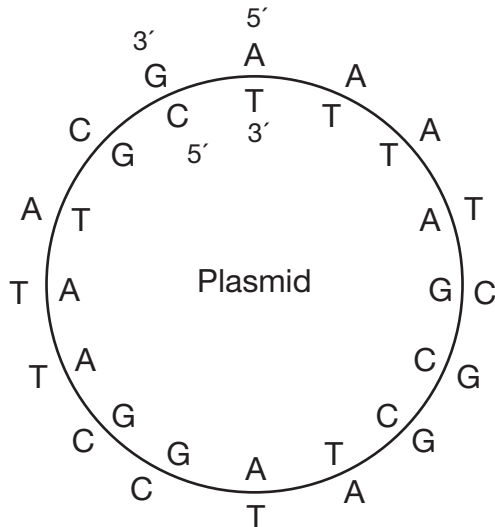
Part A.

Complete the diagram below to simulate the formation of recombinant DNA and describe each step.

Chromosomal DNA containing gene of interest

5' CTTTGGATCCGCGGATCC 3'

3' GAAACCTAGGCGCCTAGG 5'



Post-Lab Questions

1. Plasmids such as the one made in this activity are unable to survive on their own; they must be inserted into a host bacterium. Explain why only “small” human genes have been successfully produced using recombinant DNA techniques.

2. Many humanitarian organizations are attempting to create a super crop which will grow on poor soil, withstand harsh climate, and combat malnutrition. Describe the steps necessary to insert the gene for β -carotene (Vitamin A) into rice.