

Activity: Modeling DNA Replication  
AP Biology

Name: \_\_\_\_\_

Working in groups of three or four, construct a dynamic (working or active) model of DNA replication. You may use the material provided in class or devise your own.

Building the model

- Develop a model of a short segment of double-stranded DNA.
- Create a dynamic (Claymation-type) model of replication. Actively move the required bases, enzymes and, other components as needed to model replication of your DNA segment.

Your model should describe the roles and relationships of all the following enzymes and structures in replication:

Antiparallel strands	Phosphate	Ligase
Leading strand	Nitrogenous bases A, T, G, C	Helicase
Lagging strand	Replication fork	Topoisomerase
5' end	Replication bubble	Primase
3' end	Okazaki fragment	RNA primer
3' → 5' verses 5' → 3'	Origin of Replication	DNA ligase
Deoxyribose	DNA polymerase	