**DNA Replication Stop Motion Video Project:**

**Objective:** Students in groups will create a stop motion video that accurately depicts the process of DNA Replication from beginning to end.  The stop motion video can be made with any app or program, but must be uploaded to YouTube. You will add your video to the class playlist (Link listed below).  Students may use any items or drawings to illustrate the process.

**Requirements:**  The following are required for your video:

* An introduction slide that has a title and your group member’s names
* All enzymes involved (topoisomerase, helicase, DNA Polymerase I & III, primase, and ligase) and SSBPs.  The enzymes should be labeled (at minimum when they are first introduced).
* An accurate depiction of semi-conservative replication
* DNA’s structure including directionality (you do not need to illustrate sugars and phosphates independently nor specific bonds). Include labels.
* Approximately 30 seconds in length

**Tips:** Stop Motion Studio (Apple) is a free app you can use OR Stop Motion Animator, ClapMotion, or Stop-Motion Lite (Android).  Use a ring stand to hold camera steady. Practice before filming the first time. Storyboard your ideas. Shoot each frame for about 1 second so after editing you end up with approximately 3-5 frames per second (anywhere from 90-150 frames total for 30 seconds).  The more frames you shoot, the smoother the video will run. Try to keep camera and lighting uniform to make editing easier. Remove audio from frames. You can further edit your video using computer software.

**You must email or AirDrop the video to Mrs. Robinson for submission.**

**Grading:**

**Video Appearance:** Colorful, neat, smooth transitions, logical order, title and group members names present.  (20 points)

**Scientific Knowledge**: video indicates a clear and accurate understanding of the scientific principles underlying DNA Replication. (30 points)

**Components**:  All required enzymes and structures are present, labeled, and logical.  (20 points)

**Processes:** Animation is complete with key steps (unzipping, complementary base pair joining, etc.) clearly demonstrated. (20 points)

**Group Work**:  Each group member will be evaluated by other members as well as myself.  This is a team project and everyone should be contributing to all parts. This grade will vary based on group members and is left to teacher discretion.  (10 points)

Example of Project: <http://www.cleanvideosearch.com/media/action/yt/watch?v=3JsZrRDeBCk>