Sci 9 **STOP ANIMATION MEIOSIS PROJECT**

In groups of two or three, create a stop motion animation demonstrating the full process of Meiosis I and II using play dough and other materials, focusing on cell membrane, nucleus, centrioles, and chromosomes.

**STEP 1: PLANNING**

1. PLAN DUTIES: with your group who will do what. (playdough manipulation, written description, taking pictures).
2. Decide what DEVICE (phone, library ipad) and PROGRAM (imotion works well on library ipad, etc) to use.
3. Plan your STEPS. What do you need to show in each phase? Draw out a story board for each phase. YOU WILL HAVE THREE LIBRARY DAYs. If you do not finish in class you will complete for homework.

**STEP 2: FILMING**

1. Begin with partner names, and title of your animation.
2. Using available materials, construct a model of a cell **starting with interphase.**
3. Neatly LABEL PARTS of the cell (chromatids, chromosomes, nuclear envelope, centrioles, spindle fibers). This can be done with cards on the table or text on the screen.
4. Each phase should have a TITLE and DESCRIPTION either on the table (big enough for camera to read or subtitles.
5. KEEPING THE CAMERA STILL, Take a picture, move structures a small amount, take another picture, move a tiny bit, take a picture. Aim for at least 5-6 pictures between each phase change while making small changes to your model to transform it into the next stage. Remember, this is a movie, not several separate images. The more pictures you capture the smoother your movie will be.
6. Continue until you are done with all stages of both Meiosis I and Meiosis II, remember there is no interphase in Meiosis II.
7. End with credits of who did what in your movie.
8. Submit through Office 365 Teams.

**Checklist:**

* Begin with a title and partner names
* Start with Interphase
* Parts to be labelled: cell membrane, nuclear membrane, centrioles, chromatids, chromosomes, spindle fibers, cleavage furrow.
* Minimum of 4 chromosomes, of at least two different colours
* All Phases labelled and described:
* Interphase – at least 3 things that happen shown and labeled
* Prophase - at least 3 things that happen shown and labelled
* Metaphase -at least 1 thing that happen shown and labelled
* Anaphase - at least 1 thing that happens shown and labelled
* Telophase – at least 3 things that happens shown and labelled
* Cytokinesis - description of what happens during this process
* End with Credits listing who did what.

**How you will be graded:**

**Content: (20 pts)**

Video begins with title and group members (1pt)

All parts correctly labelled (3 pts)

All phases correct, labelled, and explained. (15 pts)

Video ends with credits: who did what (1pts)

**Effort and Style*:*** (15 pts)

Movie flows well with enough pictures taken (5 pts)

Continuity and Consistency (ex: same number of chromosomes throughout, colors, crossing over, etc) (5 pts)

Effort in making structures look like the real thing (5pt)

**Analysis Questions (after your pictures are done).**

1. What was the most challenging thing in making your movie?
2. What was the easiest thing to do in making your movie?
3. If you had to do this again, what SPECIFICALLY could you do to improve your movie?
4. Thinking about how you worked with your partner(s), what were some of the challenges and successes of working in a group?
5. Why is Meiosis important? In other words, what is the point of cells performing Meiosis?