**Life Science - Cell Cycle Animation Project**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_

Now that you have learned about the cell cycle and mitosis, it’s time to put your knowledge to good use. Over the week, you will be creating your own animation of the cell cycle including mitosis. You will also explain what is occurring during each of the phases. This will be a great project - have fun with it!

**Models**

All of your models will be created using one of three apps - Explain Everything, Stop Motion, or Hyperlapse. **At a minimum, you will create six models** to represent the six stages of the cell cycle (including interphase, prophase, metaphase, anaphase, telophase, & cytokinesis). **To make a more realistic animation though, it‘s recommended that you make slight changes to your models as you record**. This way you can show how the cell changes from phase to phase. The resources you may use are the diagrams from the textbook (pages 94 – 95). The PowerPoint and note sheet. Please pay close attention to the requirements for the models below:

1. **Cell parts** – The following cell parts **must** be included in your models:

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Nucleus | 5. Chromatin | 8. Centromere | 11. Cleavage Furrow |
| 1. Nucleolus | 6. Nuclear Envelope | 9. Chromosome | 12. Spindle Fibers |
| 1. Centrosomes 2. Centrioles | 7. Cell Membrane  8. Cytoplasm | 10. Daughter  Chromosomes | (Microtubules) |

1. **Labels** – **Each of the six phases must be labeled** at the beginning of each phase **and each cell part (listed above) must be labeled** once during the whole animation**.**  In other words, the **phases and cell parts do not need to be labeled more than once. \*\*The only exception is when cell parts reform, like in telophase and cytokinesis.\*\***
2. **Colors** – **Each cell part must be identified with a different color**. These colors must be consistent throughout all the phase models. For example, if spindle fibers (microtubules) are green in the Interphase drawing, then each of the phase drawings that follow will also have green spindle fibers.

**Stage Explanations**

Each stage will need an explanation to describe what types of cell processes are occurring in the drawing. These explanations **must include the terms highlighted in the cell parts section.** As stated above, you may use the textbook (pages 92-95) and/or the PowerPoint and note sheet.

Each explanation should be **a paragraph long and a voiceover will be created**. You may do the voice over using Explain Everything, but another option is to “app smash” with iMovie. iMovie will allow you to do a voiceover, pause on diagrams that you want talk more about, and also allow you to include background music.

**See Grading Sheet on the Back…**

**Grading Sheet: Cell Cycle Animations**

1. **Animation** –

* Animation shows movement of cell structures in your video, including those listed in the cell parts section above.

**(3 points)** \_\_\_\_\_\_

* Models: Provided at least six models to represent the six stages of the cell cycle (four of them being mitosis)

**(6 points)** \_\_\_\_\_\_

* Colors: All cell parts were represented with unique colors throughout all models.

**(2 points)** \_\_\_\_\_\_

1. **Labeling** - Labels all stages of the cell cycle and cell structures once,

Interphase, Prophase, Metaphase, Anaphase, Telophase, and Cytokinesis.

**(2 points)** \_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Nucleus | 5. Chromatin | 8. Centromere | 11. Cleavage Furrow |
| 1. Nucleolus | 6. Nuclear Envelope | 9. Chromosome | 12. Spindle Fibers |
| 1. Centrosomes 2. Centrioles | 7. Cell Membrane  8. Cytoplasm | 10. Daughter  Chromosomes | (aka - Microtubules) |

**(6 points)** \_\_\_\_\_\_\_

1. **Explanation** - Provides details in the explanation and is specific.

**(6 points) \_\_\_\_\_\_**

1. **Creativity/Presentation/Effort** – shows a unique approach to animating and puts forth a great deal of effort in class.

**(5 points) \_\_\_\_\_\_**

**Total: /30 =**