**Lesson Plan 5: Cell Cycle**

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**Introduction:** This lesson follows the life cycle of a cell and explores the ways in which a cell changes depending on its current stage in the cycle. There is also an emphasis on the number of chromosomes that the cell possesses at each stage of the process. The teacher will need a strong understanding of each stage of the process and fully understand each stage and what happens in order to teach this lesson effectively.

**Group Size:** Whole Group

**Learning Objectives/Guiding Question:** What is the life cycle of a cell? How does a cell divide and why do cells divide?

1. Students will be able to explain what occurs in each phase of the cell cycle and also how many chromosomes the cell contains through a short answer format.

2. Students will be able to explain why mitosis is necessary and why each individual step is important to the process in a short answer format.

3. Students will be able to visually identify pictures of cells at different stages of mitosis.

**Materials:** Computers, worksheets

**Procedures:** 1. Students will be asked to answer the following Quick Write at the beginning of class: What causes cancer?

2. Students will have 1-2 minutes to think about the question and write a few sentences about answering the question before being able to share their thoughts with the class.

3. Once the class has brought up the point of cells that keep dividing without stopping the teacher will bring up the idea of the cell cycle.

4. The teacher will then explain each step of the cell cycle in detail for the class using pictures and text to supplement each phase. The teacher will also tell students to note the number of chromosomes each cell has as this is very important to how the process works. Students will be asked throughout the lesson to write down the number of chromosomes the cell has and hold it up so the teacher can see. This Quick Scan will allow the teacher to assess how well they are taking in the information for each phase.

5. After the teacher has finished going over each phase in detail, they will bring up the following website, <http://www.floridastandards.org/RESOURCES/URLresourcebar.aspx?ResourceID=4aq2DkB62vY=D>. This website has an interactive model in which the player must place all of the steps of mitosis in the correct order. This interactive game also includes pictures, text and video for each phase to further reinforce the important points to students.

6. Students will then be given a worksheet that asks them to explain the important steps of each phase in a short answer and also to correctly match images of cells from each phase of mitosis. Students will be given the remainder of class to work on this worksheet and it will be collected for homework the following day.

**Assessment:** Students will be assessed on their Quick Write, their participation in lecture, and the accuracy of the worksheet that will be collected for homework the next day.

**Benchmark or Standards:** SC.912.L.16.14 Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.