

English: <https://bit.ly/2SdSw08>Spanish: <https://bit.ly/2MSrQfu>

1. **Cell Cycle Phases Overview:** Read through the overview to answer the following questions:
 - a. What are the 4 phases of the cell cycle?
 - b. What stage must happen after mitosis before division is complete (it is not shown in this diagram)?
 - c. What is the product of cell division?
 - d. What kinds of proteins are responsible for regulating the progression of the cell cycle?
 - e. What can happen if the cell cycle is not regulated?

2. **Background:** Click on the “Background” tab on the right of the page
 - a. Page 1: What kind of cells need to divide more than other kinds of cells?
 - b. Page 2: What is an example of a specific molecular signal that triggers cells to divide?
 - c. Page 2: What process can cause some cells to stop dividing?
 - d. Page 2: What is apoptosis?
 - e. Page 3: What are the three functions of cell cycle regulators?
 - f. Page 4: What problems can arise when cell cycle regulators stop working?

3. **Key Concepts:** Click on the “Key Concepts” tab on the right of the page
 - a. What is cancer?

4. **Cell Cycle Checkpoints:** Click on each stage of the cell cycle in the diagram to learn how the cell cycle proceeds
 - a. Which two conditions must be met for cells to pass the G1 checkpoint?
 - b. What is stage G0?
 - c. What condition must be met for cells to pass the S checkpoint?
 - d. Which three conditions must be met for cells to pass the G2 checkpoint?
 - e. What condition must be met for mitosis to be completed?

5. **Cell Cycle Regulators and Cancer:** Click on the button “Cell Cycle Regulators and Cancer” in the middle of the diagram
- a. What do stimulating proteins do?
 - b. What genes code for stimulating proteins?
 - c. What do inhibitory proteins do?
 - d. What genes code for inhibitory proteins?
 - e. Which two proteins are the most important cell cycle regulators?
 - f. What are the stimulating proteins for G1?
 - g. What are the inhibiting proteins for G1?
 - h. What are the stimulating proteins for S?
 - i. What are the inhibiting proteins for S?
 - j. What are the stimulating proteins for G2?
 - k. What are the inhibiting proteins for G2?
 - l. What are the stimulating proteins for M?
 - m. What are the inhibiting proteins for M?