# Assignment Summary

In this assignment, you will create a poster with an illustration that models stem cell division and differentiation. Your poster should include a title, an illustration, and brief descriptions of stem cells, stem cell division and differentiation, and the role of specialized cells in complex organisms, such as humans. You will also type one to two paragraphs summarizing the information from your poster.

Background Information

A stem cell is a cell from which new cells with specialized functions are formed. Stem cells divide by mitosis to produce new cells that serve one of two purposes. One purpose is self-renewal. Through this process, stem cells divide and create more stem cells. The other purpose is differentiation. This occurs when a stem cell divides and one daughter cell retains stem cell properties while the other creates a specialized cell such as a heart cell, skin cell, or brain cell.

Materials

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| --- | --- |
| * Scrap paper * Large poster board * Scissors | * Pens, pencils, markers, or other drawing/coloring utensils * Glue |

# Assignment Instructions

**Step 1: Prepare for the project.**

1. Read the entire Student Guide before you begin this project.
2. If anything is unclear, be sure to ask your teacher for assistance before you begin.
3. Gather the materials you will need to complete this project.

**Step 2: Create your poster.**

1. Before you begin, write your name, your teacher’s name, and the due date on the back of the poster.
2. Decide on a title for your poster and write it neatly at the top of your poster.
3. Decide how to lay out your illustration. You may want to use scrap paper to create a rough draft of your model. Your model should clearly illustrate cellular division (mitosis) as well as differentiation into specialized cells.
4. Once you have finalized the design of your model, sketch it on your poster. You may want to start with pencil in case you need to make any changes.
5. Once your sketch is final, use markers or other drawing utensils to make your illustration permanent.
6. Be sure to leave space for typed or written descriptions of:
7. stem cells.
8. stem cell division.
9. differentiation.
10. the role of specialized cells in humans.

**Step 3: Add descriptions to your poster.**

1. Now that your illustration is complete, it is time to add descriptions to your poster to explain the parts of your model. You may choose to write your descriptions neatly on your poster or type your descriptions and paste them on.
2. Add a brief description of stem cells to your poster.
3. Add a brief description of stem cell division to your poster.
4. Add a brief description of differentiation to your poster.
5. Add a brief description explaining the role of specialized cells in humans.

**Step 4: Compose one to two typewritten paragraphs.**

1. Type one to two paragraphs summarizing the information presented on your poster.
2. Make sure your name is on the document.
3. You will submit this document through the Virtual Classroom.

**Step 5: Evaluate your poster using this checklist.**

* Does your poster include a title?
* Does your model illustrate cellular division (mitosis) in stem cells?
* Does your model illustrate differentiation into specialized cells?
* Does your poster include a brief description of stem cells?
* Does your poster include a brief description of stem cell division?
* Does your poster include a brief description of differentiation?
* Does your poster include a brief paragraph explaining the role of specialized cells in humans?
* Is the text on the poster typed or clearly written?
* Is your poster free from misspellings and grammatical errors?
* Did you write your name, your teacher’s name, and the due date on the back of your poster?
* Did you type one to two paragraphs summarizing the information in your poster? Is your name on this document?

**Step 6: Revise and submit your poster.**

1. If you were unable to check off all the requirements on the checklist, revise your poster before submitting it.
2. When you have completed your poster, submit it to your teacher for grading. Make sure that your name is on it.
3. Submit the typewritten document through the Virtual Classroom. Make sure that your name is on it.

**Step 7: Clean up your work space.**

1. Clean up your work space, making sure to throw away any trash. Put away any other materials that you used to create your poster.
2. Congratulations! You have completed your project.