

Mitosis and Meiosis Online Lab

Using the following directions, answer the questions on a separate piece of paper. **Do NOT write on handout!**

1. Click here http://www.pbs.org/wgbh/nova/baby/divi_flash.html and click “Launch Interactive.”
2. How many steps to complete Mitosis? Meiosis?
3. Go to the last step in Meiosis. What does it say about “daughter cells”?
4. Recently in the media news there has been a lot of discussion about “stem cells”.
Click here <http://www.dnalc.org/stemcells.html> and then answer questions 5-8. Be sure to click the “continue” button to learn more about embryonic stem cells.
5. What is a blastocyst? How many cells does it have?
6. On the next slide what does it say about the potential of stem cells?
7. Where are the cells placed to develop?
8. Look at the last slide. What do they hope these cells can be used for?
9. Here is another [picture of a blastocyst](#) (Click on link on handout) the pink cells are the stem cells. Where are they located?
10. This shows you [how big](#) (Click on link on handout) it is. Compare to the dime.
11. How many days after [fertilization does the blastocyst implant](#) (Click on link on handout)?
12. Look at the following about cancer:

http://www.pbs.org/wgbh/nova/cancer/grow_flash.html

On the last two slides it talks about why cancer cells are so dangerous.

What does “metastasize” mean? And why is it so dangerous?

Check out the following videos:

13. [Meiosis](#)

Click on “Unique Features of Meiosis.” What is the name for the “swapping” of genetic material during Prophase 1 called?

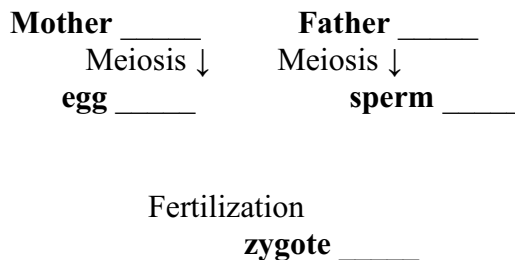
Click on “Stages of Meiosis.” During Telophase 1, how many sister chromatids does each nuclei contain?

Click on the video that shows a comparison between “Mitosis and Meiosis.” Using all we have learned, list at least 3 differences between Meiosis and Mitosis.

Conclusion Questions:

1. Describe the differences between daughter cells produced by meiosis and daughter cells produced by mitosis.
2. The following diagram provides an overview of the information covered thus far.

Review the diagram, and fill in the correct number of chromosomes per human cell in each blank.



3. How many chromosomes are there in a human skin cell produced by mitosis?

How many chromosomes are there in a human sperm cell produced by meiosis?

4. Compare and contrast mitosis and meiosis. You may want to draw a Venn diagram to support your answer.