

Mitosis and Meiosis Webquest

Name: _____ Date: _____ Pd: _____

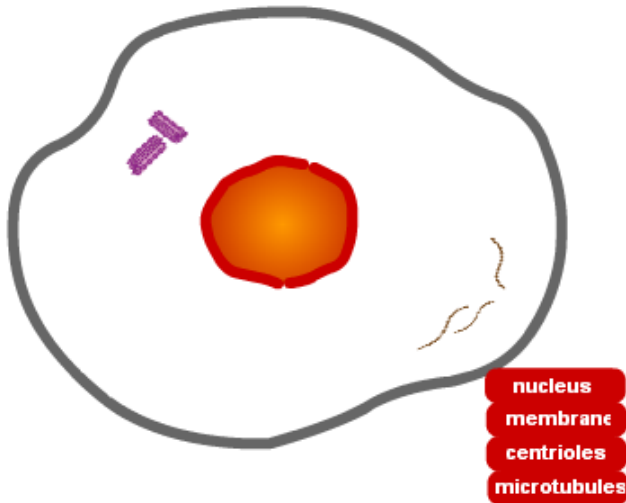
Objective: In this activity, you will use the following web pages to examine the processes of mitosis and meiosis. Both of these processes are important in human reproduction.

PART A: Cell Growth and Mitosis

Please go to the following webpage:

<http://plaza.ufl.edu/alallen/pgl/modules/rio/stingarees/module/index.html>

1. Label the diagram to the left using the boxed words found on the bottom right section of the image.



2. What is the function of the cell membrane in cell division?

3. What is the role of the nucleus in cell division?

4. What is the role of the centrioles in cell division?

5. What is the role of the microtubules in cell division?

Click on the tab, "Why Must Cells Divide?"

6. Why are cells limited in size?

7. *Click on the animation.* A cell with 2cm sides has what surface area? _____ What volume? _____

8. What would be the surface to volume ratio? _____

9. A cell with a large volume will have a more difficult time doing what?

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Click on the tab, "What Does Mitosis Do?"

10. What are the 2 major functions of mitosis? _____ and _____

Click on the tab, "Built-in Controls in Mitosis"

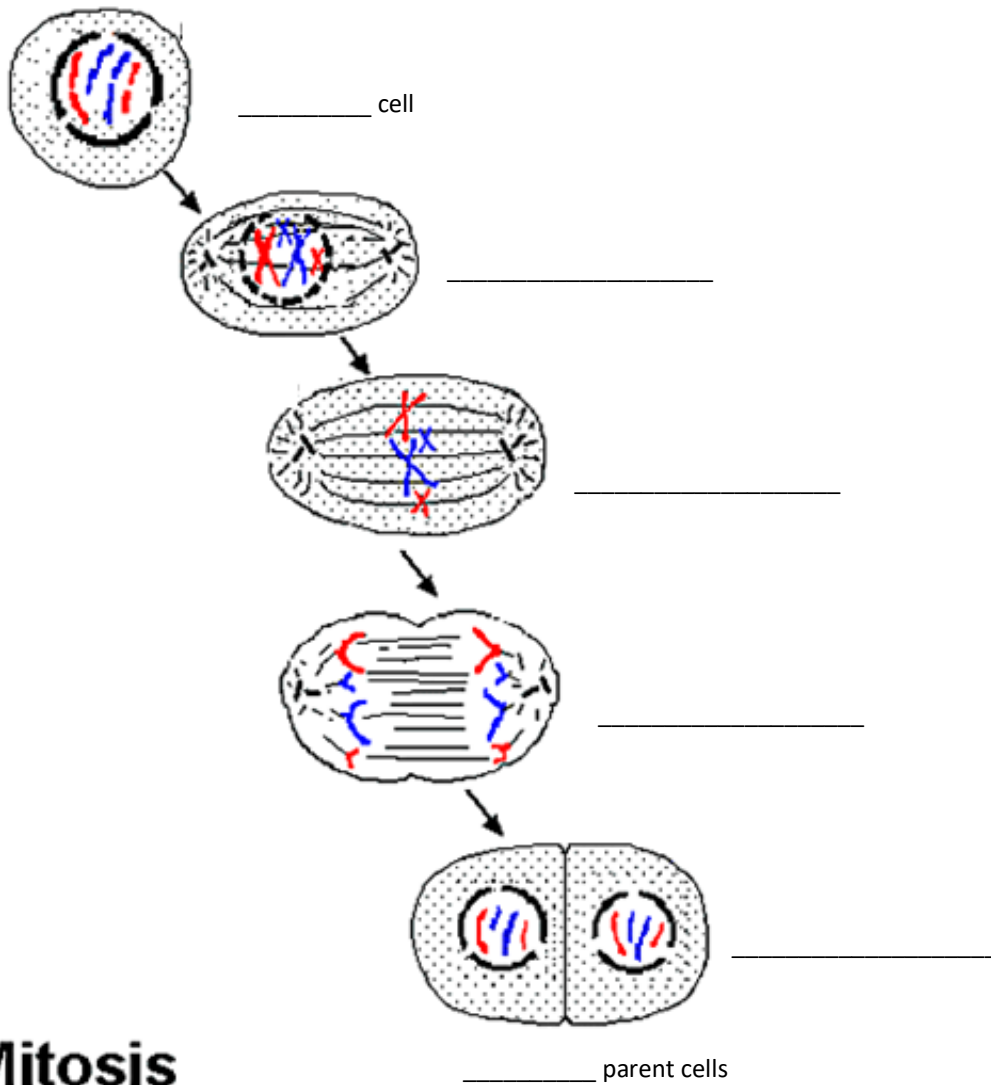
11. The control that tells cells to stop dividing when in contact with one another is called _____.

12. Uncontrolled cell division can result in cancer or _____.

PART B: Mitosis

13. Fill in the blanks on the diagram: <http://www.accessexcellence.org/RC/VL/GG/mitosis.html>

14. Use the space next to each label to briefly describe what is happening in each step



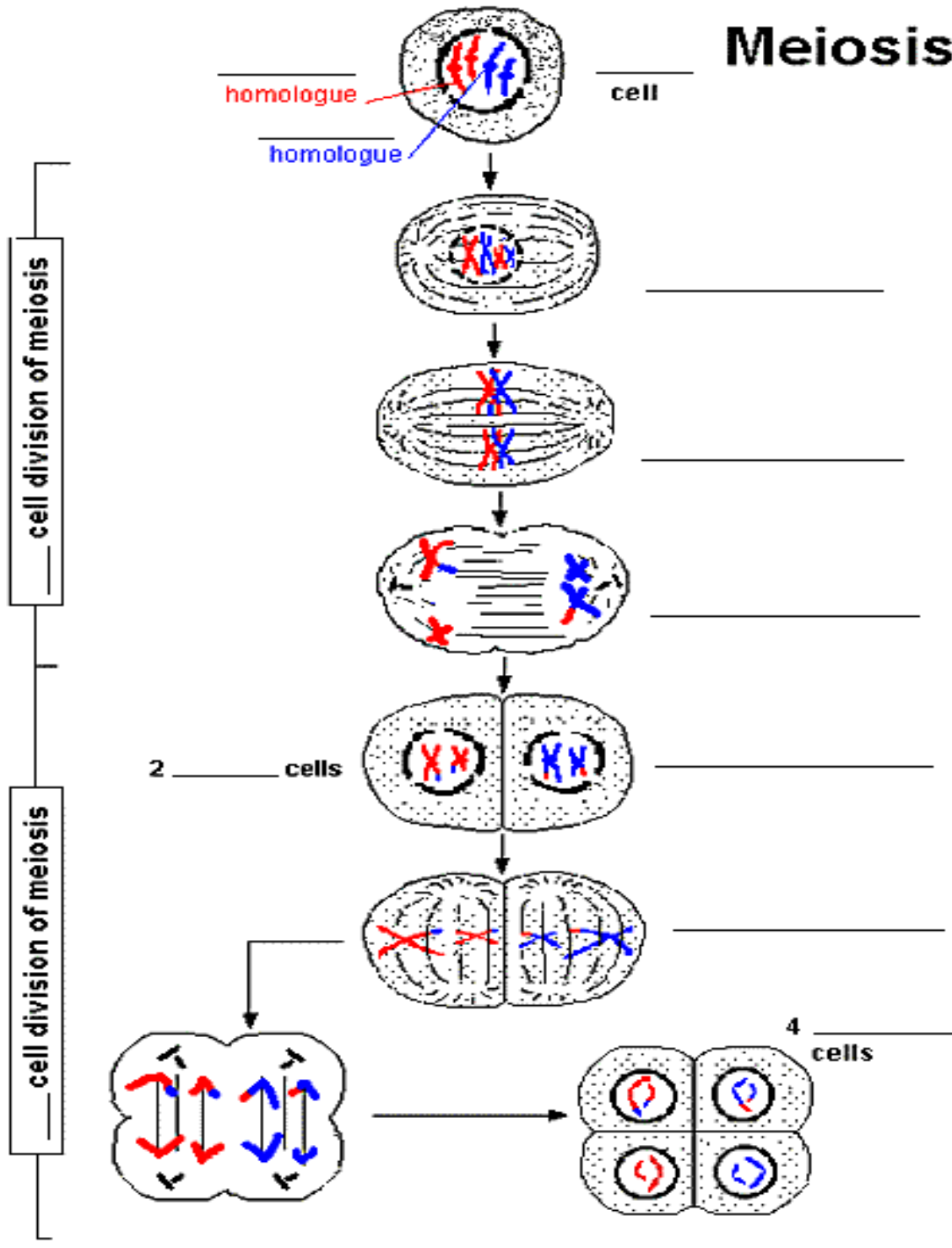
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PART C: Meiosis

15. Fill in the blanks on the diagram: <http://www.accessexcellence.org/RC/VL/GG/meiosis.html>

16. Use the space next to each label to briefly describe what is happening in each step



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PART D: Comparing and Contrasting the Steps of Mitosis and Meiosis

<http://www.pbs.org/wgbh/nova/baby/divide.html#>

Click "Launch Interactive"

Mitosis: Step 1

17. Mitosis results in _____ daughter cells.
18. The genetic information within each of these daughter cells is _____.

Meiosis: Step 1

19. The genetic code for a human is contained in _____ chromosomes.
20. Meiosis results in _____ daughter cells.
21. Each of the daughter cells will have _____ the number of chromosomes.

Mitosis: Step 2

22. During this time chromosomes _____

Mitosis: Step 3

23. A _____ begins to form from the centrioles.
24. What happens to the membrane of the nucleus? _____

Mitosis: Step 5

25. Where do the chromosomes line up during metaphase? _____

Meiosis: Step 5

26. Where do the chromosomes line up during metaphase 1? _____

Mitosis: Step 7

27. The chromosomes arrive at _____ of the cell and new nuclear membranes _____.

Meiosis: Step 7

28. What happens to the one small cell formed during this stage of meiosis? _____

Mitosis: Step 8

29. Define cytokinesis _____

Meiosis: Step 15

30. Each daughter cell has _____ the number of chromosomes as the original cell.
31. There are now _____ daughter cells.

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Using the site above and your note packet, fill in the following Venn Diagram of the terms listed below.

Terms:

- | | |
|--|------------------|
| a. Asexual reproduction | j. Haploid |
| b. Sexual reproduction | k. Diploid |
| c. Same Chromosome number | l. Sex cells |
| d. Different Chromosome number | m. Body cells |
| e. One part to cell division | n. cell division |
| f. Two parts to cell division (I and II) | o. growth |
| g. Example: Bacteria reproduction | p. repair |
| h. Example: Human reproduction | |
| i. Produces sperm or egg cells | |

PART E: Comparing and Contrasting Mitosis and Meiosis Venn Diagram

