**Meiosis - Internet Lesson**

**Site 1 - Lew-Port's Meiosis Page  
Go to** [**http://www.lew-port.com/10712041113402793/lib/10712041113402793/animations/mitosis.html**](http://www.lew-port.com/10712041113402793/lib/10712041113402793/animations/mitosis.html) **-->click on Meiosis (also try googling "lewport biology animations" for shortcut)**

1. How many chromosomes does the cell in this animation start with ? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
2. The homologous pairs are represented by similar \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
3. When chromosomes make copies of themselves, they \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
4. Copies of chromosomes are held together by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
5. Each chromosome finds its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
6. Draw "crossing over" - using your pencil to shade in the areas that exchange parts.

7. How many chromosomes are at each pole of the cell? \_\_\_\_\_\_\_\_\_\_\_  
7. During meiosis 2, chromosomes line up again along the cell's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
8. Only \_\_\_\_\_\_\_\_\_ copy of each chromosome moves toward the poles. Which means only \_\_\_\_\_\_\_\_\_ chromosomes of the original six.  
9. New membranes form around each \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
10. Each cell divides, forming a total of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells.

**Site 2 - Sumanas Inc., Animation of Meiosis**[**http://www.sumanasinc.com/**](http://www.sumanasinc.com/webcontent/anisamples/majorsbiology/) **---> go to animation gallery --> go to general biology --> Meiosis**

12. Read the introduction. Explain how sexual reproduction results in unique offspring.

(Click the "STEP THROUGH" button)  
12. DNA replication takes place when? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
13. Meiosis consists of two cell divisions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
14. Centrosomes (aka centrioles) migrate to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
15. The pairing of homologous chromosomes is called: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
16. Crossing over points are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
17. What happens in metaphase I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
18. What happens during anaphase I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
19. What is interkinesis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
20. In prophase II, each cells is [ diploid / haploid ] (circle)  
21. In metaphase II, chromosomes line up in [ single | double ] file.  
22. What happens during telophase II? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
23. (Click to Conclusion). Each of the four daughter cells produced by meiosis is [ identical / unique ]

**(Click to Quiz)**

24. With respect to meiosis, when does DNA replication occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
25. When does crossing over occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
26. During which phase do chromosomes line up along the equator? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
27. During which phase does the nuclear membrane form around the chromosomes? \_\_\_\_\_\_\_\_\_\_\_\_\_

**Site 3 - Biology in Motion - Meiosis  
Go to** [**www.biologyinmotion.com**](http://biologycorner.com/worksheets/www.biologyinmotion.com) **--> click "Cell Division Exercise" --> Click "Practice Meiosis"**

28. There are two ways in which the chromosomes can end up after meiosis. Sketch the two ways and indicate by color the chromosomes (use the following color codes: Purple, Dark Purple, Green, Dark green)

## Site 4: PBS: Mitosis vs. Meiosis <http://www.pbs.org/wgbh/nova/baby/>--> Click "How Cells Divide" -->"Mitosis vs. Meiosis"

|  |  |  |
| --- | --- | --- |
|  | Meiosis | Mitosis |
| Two cell divisions |  |  |
| Centrioles appear |  |  |
| Chromosomes pair up |  |  |
| Spindle fibers form |  |  |
| Two cell divisions |  |  |
| Cytokinesis |  |  |
| Four daughter cells |  |  |

29. After viewing the animation, fill out the chart below, by placing a check in the box or boxes to indicate which the event occurs in (some events might have checks for both mitosis and meiosis).