Biologist \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Meiosis Webquest**

**Directions**: Use the following links to view animations, diagrams, and readings to answer questions about meiosis.

**Lew-Port’s Meiosis Page**

<https://lpscience.fatcow.com/jwanamaker/animations/meiosis.html>

--> click on meiosis

1. How many chromosomes does the cell in this animation start with? \_\_\_\_\_\_\_\_

2. The homologous pairs are represented by similar \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Copies of chromosomes are held together by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Each chromosome finds its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Draw "crossing over" - using your pencil to shade in the areas that exchange parts.

6. At the end of meiosis one, 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 the final cell only has \_\_\_\_\_\_\_\_\_ chromosomes.

10. **Summary question**

During meiosis, one cell divides \_\_\_\_\_\_\_\_\_\_ times, thus forming a total of \_\_\_\_\_\_\_\_ cells.

**Site 2 – Sumanas Inc., Animation of Meiosis**

Go to <http://www.sumanasinc.com/webcontent/animations/biology.html>

*Click on Meiosis*

11. Read the introduction. Explain the difference between sexual and asexual reproduction.

*Click on Narrated*

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 on 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? \_\_\_\_\_\_\_\_\_\_\_\_\_

**PBS: Mitosis vs. Meiosis**[**http://www.pbs.org/wgbh/nova/body/how-cells-divide.html**](http://www.pbs.org/wgbh/nova/body/how-cells-divide.html) **Click on “Launch Interactive” (Button on right side)** After viewing the animation, fill out the chart below, by placing a check in the box or boxes.

