

NAME: _____

Mitosis and Meiosis Review Guide

1. When does DNA replication occur? **Interphase**
2. Describe mitosis? **When a parent cell produces 2 diploid daughter cells**
3. Diploid refers to? **The amount of chromosomes**
4. The two halves of a replicated chromosome are referred to as – **Sister Chromatids**
5. The T-shaped organelle responsible for pulling a chromosome apart - **Centrioles**

Column A

- b 6. The final phase of mitosis, in which two daughter cells are formed, each containing a complete set of chromosomes.
- e 7. Chromosomes become visible, nucleolus and nuclear envelope disappear, and a spindle forms between the pairs of centrioles.
- c 8. The nucleus and nucleolus can be seen clearly. Chromosomes are not visible because they are in the form of uncoiled chromatin.
- a 9. The centromere splits and the sister chromatids are pulled apart to opposite poles of the cell.
- d 10. Chromosomes move to the middle with each chromatid attached to a spindle fiber by its centromere.

Column B

- a. anaphase
- b. telophase
- c. interphase
- d. metaphase
- e. prophase

Matching II

- b 11. parent cell
- e 12. daughter cell
- c 13. chromosome
- d 14. homologous
- a 15. diploid

- a. The full set of chromosomes
- b. A cell that divides to make 2 daughter cells
- c. Coiled, replicated DNA that forms 2 strands joined as an X shape.
- d. Exactly alike
- e. Cells that are offspring of parent cells

Matching III

- e 16. centromere
- a 17. spindle
- b 18. chromatin material
- d 19. DNA replication
- c 20. cleavage furrow

- a. A long fiber that connects to the centromere of a chromosome and pulls it apart
- b. Uncoiled, threadlike strings of DNA
- c. Pinching in cell membrane in telophase
- d. DNA makes a copy of itself
- e. The center point at which 2 chromatids are attached

For questions 21-24, decide whether the phrase relates to **(A)** Mitosis or **(B)** Meiosis. Write the correct letter in the blank.

- B 21. end product is 4 daughter cells
B 22. creates sex cells
A 23. occurs in the somatic (body) cells
A 24. end product is diploid cells

25. How many sperm cells are produced by a cell going through meiosis? 4
26. At the end of meiosis, how many viable (good) egg cells are produced? 1
27. In what phase does DNA replication occur? Interphase

Fill in the blanks – can be used more than once!

Interphase	Oogenesis	46	Cell plate	Zygote	23	Spermatogenesis
Cytokinesis	Cleavage Furrow	Primary Oocyte	Anaphase			

28. Meiosis in males is called a Spermatogenesis.
29. Meiosis in females is called Oogenesis.
30. A Cell Plate forms during telophase of mitosis in plants.
31. Interphase is the phase of mitosis that cells spend the majority of their time.
32. There are 46 chromosomes the somatic cells of a normal, healthy human.
33. There are 46 chromosomes in a fertilized egg cell of a human.