

Name: _____

Cell Cycle (Mitosis) & Meiosis Review

Mitosis/Meiosis Quizlet

Cell differentiation Quizlet

1. Fill in the following tables showing you understand the [two types of cell divisions](#):

What are the two types of cell divisions?		
What is the purpose of each type of cell division?		
How many and what type of cells are produced from each type of cell division?		

2. What type of cell undergoes meiosis? *Gamete cells* (sex cells) or *Somatic cells* (cells of the body)

3. What is the difference between [sister chromatids and homologous chromosomes](#).

3. For each of the following cell types, state if the cell is [haploid or diploid](#).

Sperm cell _____ Liver cell _____

Stomach cell _____ Egg cell _____

4. If the diploid number in a liver cell of an organism is 52, how many chromosomes are there in the egg of this organism? _____

5. During meiosis, the chromosome number:

- a) is doubled b) is reduced c) remains the same d) becomes diploid

7. How many times do cells divide during meiosis? _____

8. Why is it necessary to divide this many times in [meiosis](#)? What is it that you want as the outcome of this process?

8. Draw a tetrad and show crossing over. During what [process and in which phase](#) do you first see this in?

9. How many cells form at the end [of meiosis](#) and how many chromosomes do they each contain?

10. A sperm cell is a (*gamete or zygote*) and is (*haploid or diploid*).

11. Which of the following best describe the term "crossing over"?
- An exchange of information between two homologous chromosomes
 - A molecular interaction between two sister chromatids
 - A molecular interaction between two non-sister chromatids
 - A separation of two sister chromatids

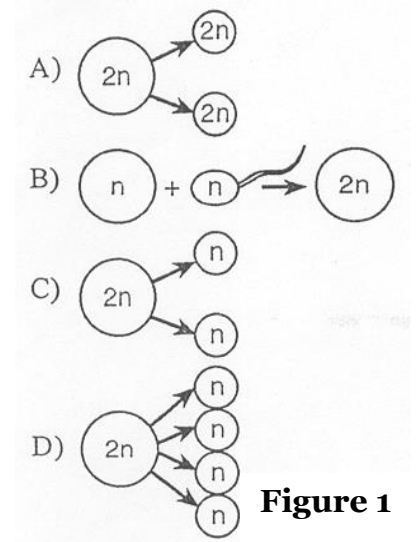
12. Which letter in Figure 1 represents meiosis? **Why?**

13. Which letter in Figure 1 represents mitosis? **Why?**

14. Which letter in Figure 1 represents fertilization? **Why?**

16. What are the 3 functions/purposes of mitosis?

- _____
- _____
- _____



18. What is/are the relationship(s) between DNA, chromosomes, and genes?

19. What is the difference between a haploid, diploid, zygote, and embryo?

20. Give 3 examples how meiosis differs from mitosis.

21. If the sperm cell of an organism contains 14 chromosomes, how many chromosomes are in a somatic cell of this organism? Explain.

22. The two major divisions of the cell cycle are:
 _____ & _____

23. Draw the cell cycle and label the parts:

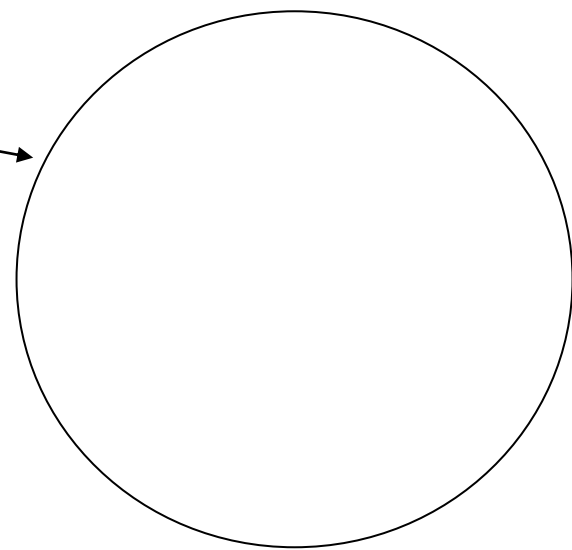
(Include: *m-phase, interphase, cytokinesis, anaphase, prophase, telophase, metaphase, daughter cells*)

24. Describe the major event(S) in each segment of interphase:

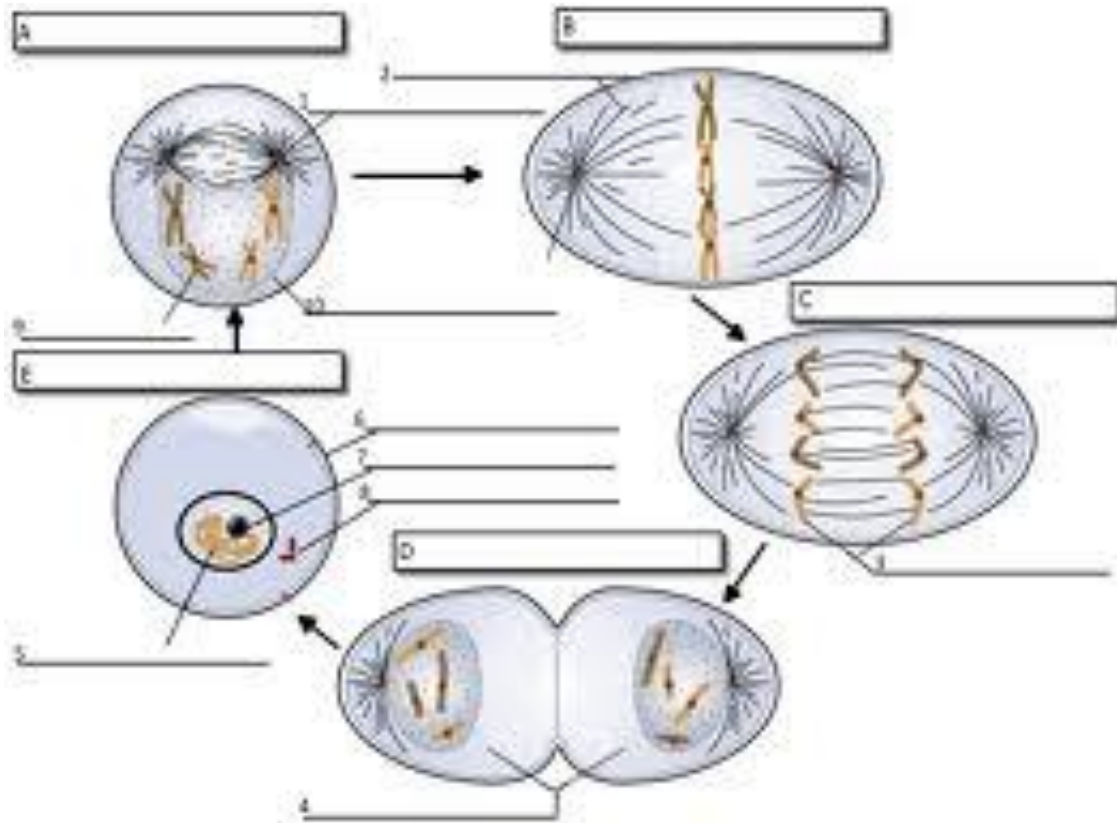
G1: _____

S: _____

G2: _____



25. Label the following terms on the [diagram below](#): interphase, prophase, metaphase, anaphase, telophase, sister chromatids, centrioles, nucleolus, spindle fibers, chromatin, cleavage furrow, nuclear membrane, cell membrane, chromosome



26. 3. Write the following words in order from the largest structure to the smallest structure: *cell, organ, organ system, organisms, tissue.*

_____ → _____ → _____ → _____ → _____

27. Label the parts of the uncopied and copied [chromosomes](#) below
 Use the terms: *dominant allele, recessive allele, gene, genotype, sister chromatids, tetrad/pair of sister chromatids, centromere*)

