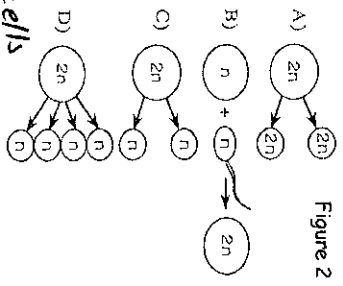


1. What type of cell undergoes meiosis? Gamete cells or Somatic cells
2. For each of the following state if the cell is haploid or diploid.
Sperm cell = haploid Liver cell = Diploid Egg cell = Haploid Stomach cell = Diploid
3. If the diploid number in a liver cell is 52, how many chromosomes are there in the egg of this organism? 26
4. During meiosis, the chromosome number: b) is reduced c) remains the same d) becomes diploid
5. Cells starting mitosis & meiosis begin with a (haploid or diploid) set of chromosomes.
6. How many times do cells divide during meiosis? 2
7. What are the stages of meiosis called?
Prophase Metaphase Anaphase
Telophase Cytokinesis
8. Meiosis I: Prophase Metaphase Anaphase
Telophase Cytokinesis
9. Meiosis II: Prophase Metaphase Anaphase
Telophase Cytokinesis
10. Which of the following best describe the term "crossing over"?
a. An exchange of information between two homologous chromosomes
b. A molecular interaction between two sister chromatids
c. A molecular interaction between two non-sister chromatids
d. A separation of two sister chromatids
11. Crossing-over can be found in the stage of
a) Prophase I b) Prophase II
c) Anaphase I d) Anaphase II
12. Which letter in figure #2 represents meiosis? Why?
D, ends w/ four haploid cells
13. Which letter in figure #2 represents mitosis? Why?
A, ends w/ 2 diploid cells
14. Is DNA copied before Meiosis II? no
15. Hapogony cells form at the end of Meiosis II and how many chromosomes do they contain? 4
16. A sperm cell is gamete (zygote), and haploid (diploid).
17. When a sperm cell and an ovum/egg merge, they undergo the process of fertilization, and give rise to a gamete, zygote which is diploid (diploid)
18. How many chromosomes do people normally have? 46
19. What is the ultimate goal/purpose of mitosis? What term do we use to describe the new cells?
create identical body cells - haploid



20. What is cancer?
uncontrolled cell growth
21. What are some causes of cancer?
environmental (smoking, chemicals, viruses, sunlight) genetics
22. What is a karyotype?
picture of an organisms chromosome
23. Humans have 22 pairs of autosomal chromosomes and 1 pair of sex chromosomes.
24. How are DNA and chromosomes related?
same, but in different forms
25. What is the difference between a haploid, diploid, and zygote?
Haploid: 1/2 # of chromosomes
Diploid: full # of chromosomes
Zygote:
26. How does Meiosis differ from Mitosis?
refer to 43
27. What does Meiosis create? haploid or Diploid? Somatic cells gametes?
28. What does mitosis create? haploid or diploid somatic cells or gametes?
2n = diploid
n = haploid
29. What is a gamete? How do we represent the chromosome number: 2n or n?
sex cell such as an egg or sperm - n
30. What is crossing over? When does it happen? Draw a picture.
when homologous chromosomes exchange genetic info.
31. What is the difference between the following chromosomal mutations?
Deletion: Removal of chromosome
Duplication
Inversion
Translocation
Nondisjunction
Trisomy:
32. What are the two reasons why cells divide?
grow + heal
33. Why are cells so small?
demand on DNA, or diffusion doesn't work well

34. What are two reasons it is important for cells to stay small?
diffusion + DNA

35. Which organelle plays a vital role during cell division?
centrioles

36. During mitosis the parent cell contains 46 chromosomes and the daughter cells contain 46 chromosomes.

37. What are the four phases of mitosis? Describe each one.
Prophase, Metaphase, Anaphase, Telophase

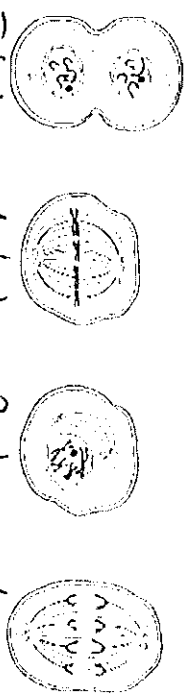
38. During which phase of the cell cycle is DNA duplicated and cell growth occurs?
interphase

39. Why is it important that a cell's DNA is duplicated before cell division?
2x each cell has a copy

40. What are the main 3 phases of the cell cycle?
Interphase, mitosis, + cytokinesis

41. Bacteria cannot reproduce sexually. How do bacteria reproduce? What is it called?
Binary fission

STRUCTURES AND FUNCTIONS In the spaces provided below, label each figure with the phase of mitosis that it represents.



Telophase Metaphase Prophase Anaphase

Label the phases of meiosis.

