Name _____ Date _____ Period _____

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# Meiosis

Biology

Show your work in the blank space. Use units and complete sentences where asked.

**1.** Write the chromosome number and whether the cell is diploid (2n) or haploid (n). A human has 46 chromosomes in a body cell.

| Cell | Chromosomes | 2n or n |
|---|---|---|
| Skin cell | | |
| Sperm cell | | |
| Zygote (fertilized egg) | | |

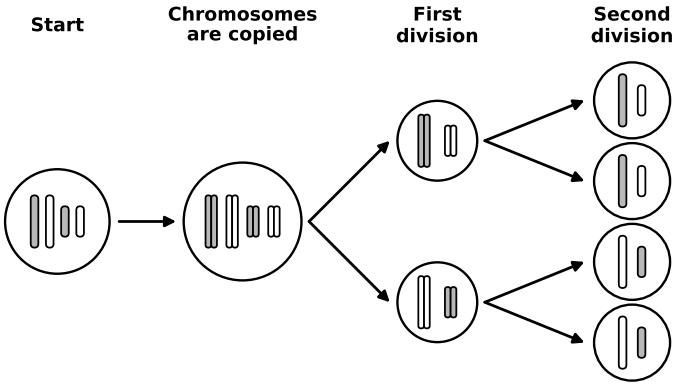
**2.** A corn plant has 20 chromosomes in each body cell (10 pairs).

(a) How many chromosomes are in one corn gamete?

(b) How many different combinations of chromosomes can one corn plant make in its gametes, ignoring crossing over?


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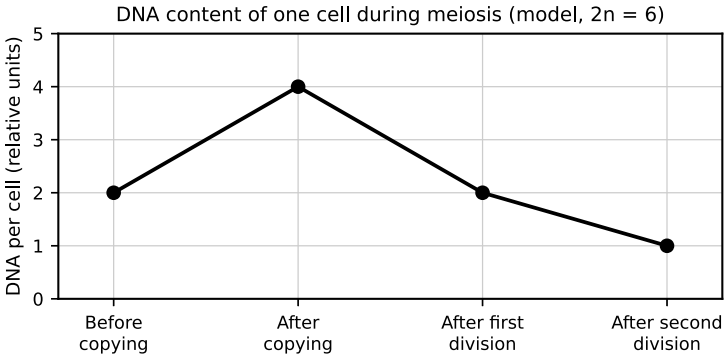
**3.** The diagram shows meiosis in a cell with 4 chromosomes.




(a) How many chromosomes are in the starting cell, and in each of the four final cells?

(b) Are the four final cells identical to the starting cell? Explain.

**4.** The graph shows the DNA in one cell during meiosis (model, 2n = 6).




(a) How much DNA is in the cell after the second division?

(b) Explain why this is half the amount in the cell before copying.

**5.** One chromosome carries alleles A and B. Its homologous partner carries a and b. After crossing over, list the four combinations of alleles that can be on the four chromosomes. Which are new?


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