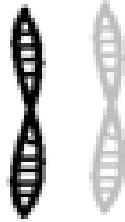


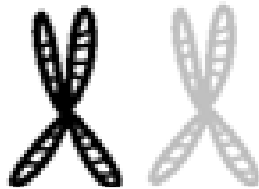
Meiosis



How many chromosomes are represented by this drawing?

How many pairs of chromosomes are represented by this drawing? What are the pairs called?

Are there chromatids?



How many chromosomes are represented by this drawing?

How many pairs of chromosomes are represented by this drawing?

Are there chromatids? What are chromatids?

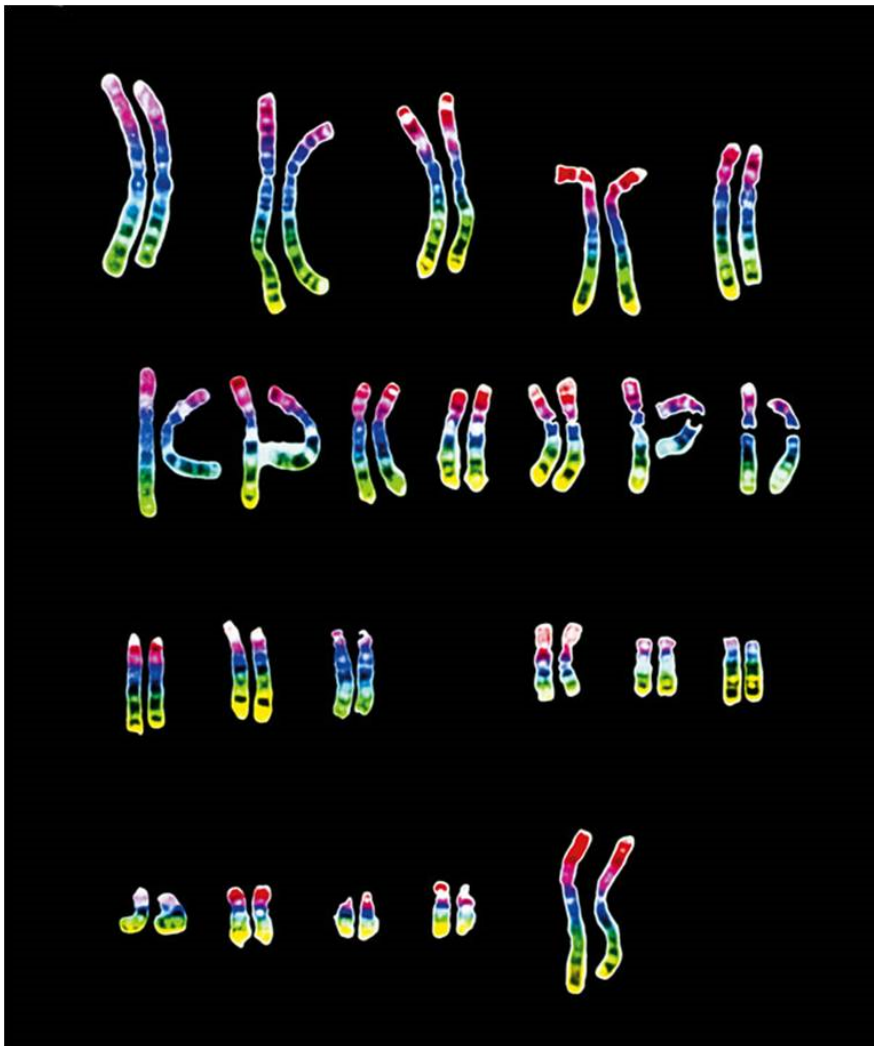
What is the specific name of the cell cycle when chromatids are created?

This is a human karyotype.

Is it 1N or 2N? Haploid or Diploid? How do you know?

How many pairs are present?

Do you think it is from a male or female? Hint: Look at chromosome number 23!



Use the drawing on the next page to go through the process of meiosis with 3 sets of chromosomes. Label all the steps and what happens at each step.

*Be sure to use the biological vocabulary.

Identify the point at which each of the following occur:

- S-phase of Interphase, Meiosis 1, Meiosis 2, Fertilization, Mitosis
- When cells are haploid and diploid
- When homologous pairs separate
- When sister chromatids separate
- When crossing over occurs
- When independent assortment occurs
- When random fertilization occurs

What is crossing over?

What is independent assortment?

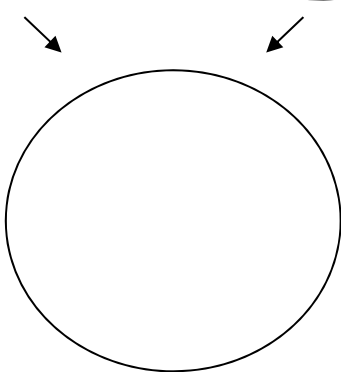
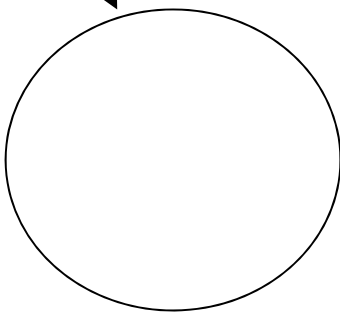
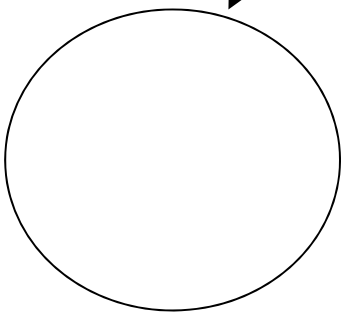
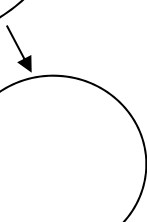
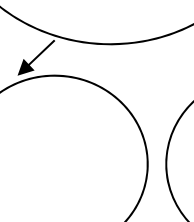
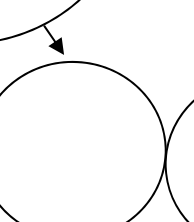
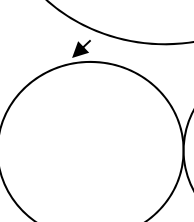
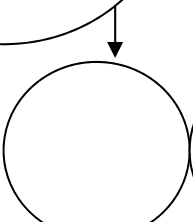
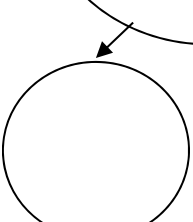
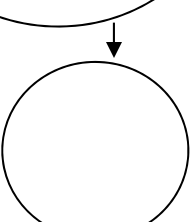
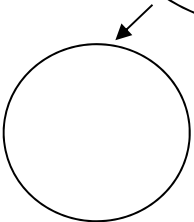
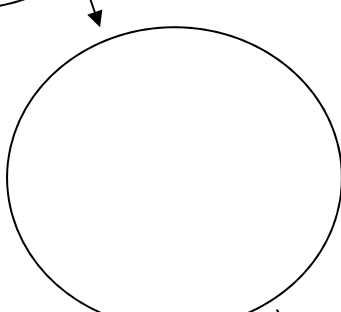
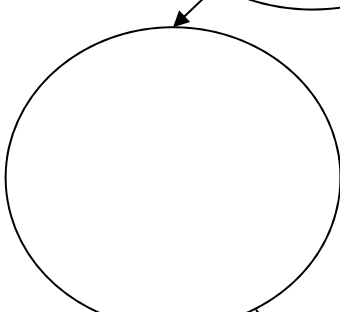
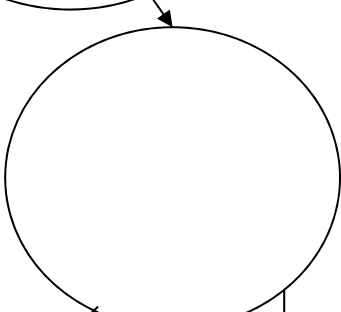
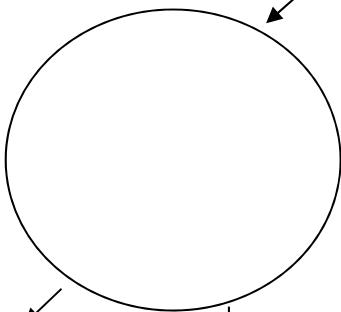
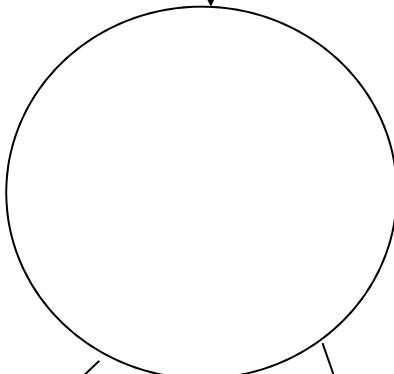
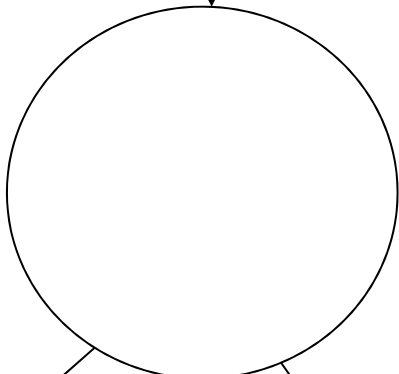
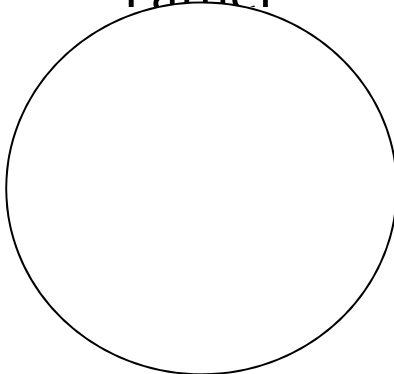
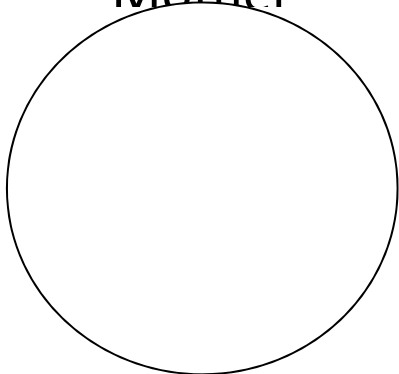
What is random fertilization?

What does it mean to have a haploid or diploid cell?

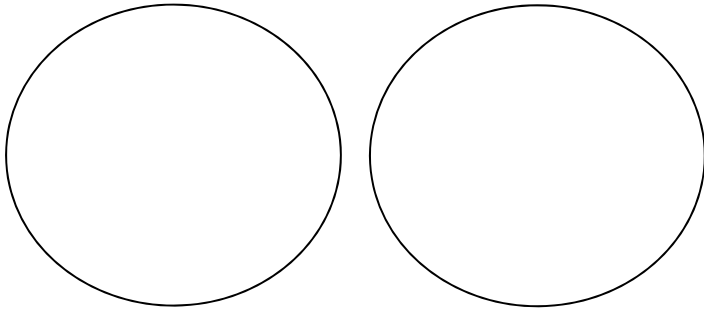
What happens after the egg is fertilized? What is the cell called? By what process does it become 2 cells? 4 cells? 8 cells? These “copies” of the cell, how do they compare to the first cell genetically?

Mother

Father



Redraw your two cells that resulted from Meiosis 1 from above.



What two events happened during meiosis 1 that increase genetic variation?

Are these cells haploid or diploid?

How many chromosomes are in each cell?

How many pairs are present?