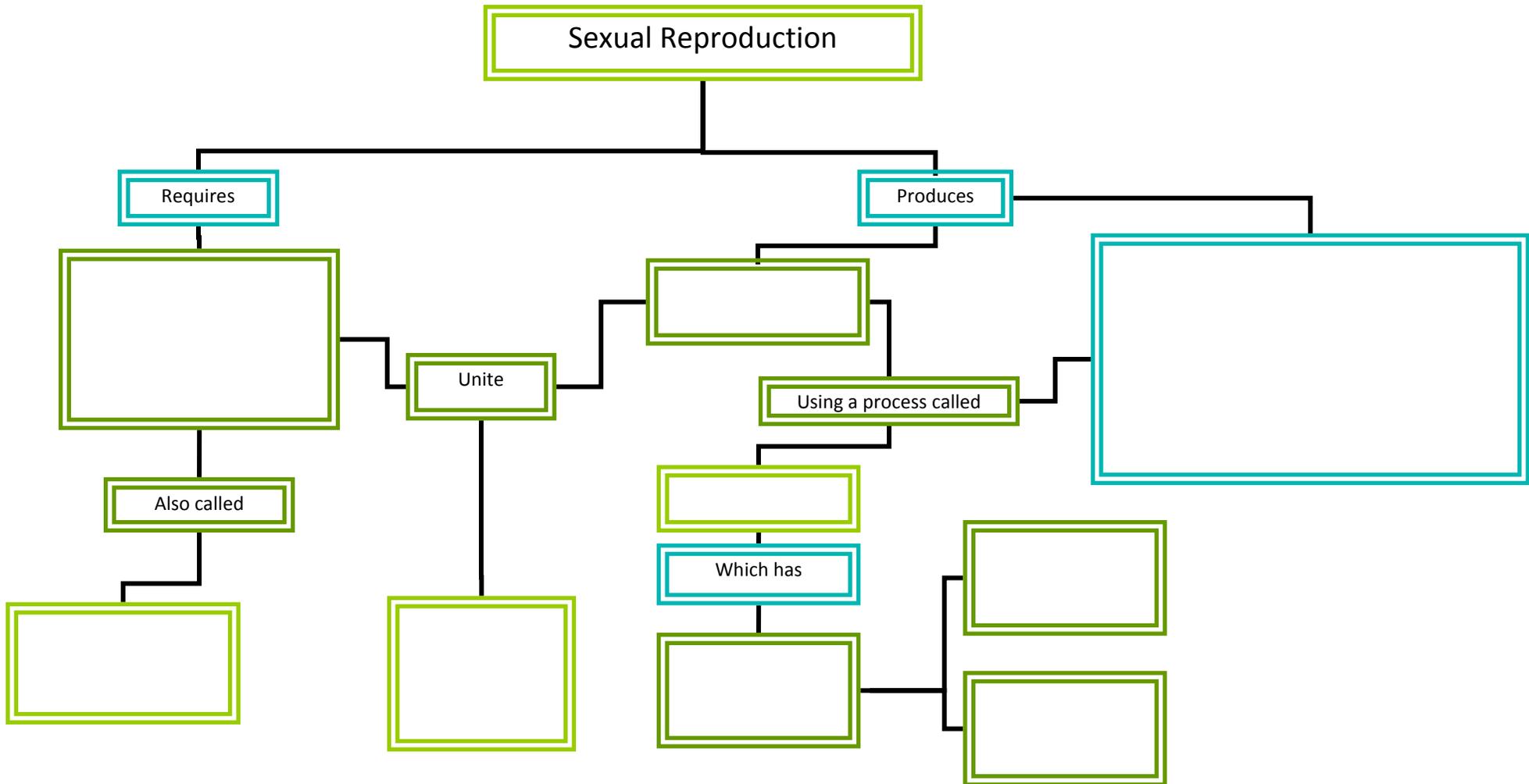


Meiosis Notes

	Diploid	Haploid
Definition		
Represented by		

The total number of _____ between different types of _____, so scientists use the letter _____ as a variable to represent _____.



Meiosis Notes

Meiosis

The diagram illustrates the stages of Meiosis I. It starts with a cell in Interphase Diploid (2n) containing four chromosomes (two blue, two red). In Prophase I, the chromosomes condense and cross over. In Metaphase I, the chromosomes align at the equator. Finally, in Telophase I and Cytokinesis, the cell divides into two daughter cells, each with two chromosomes.

Meiosis is the nuclear division of diploid (2n) sex cells in the creation of haploid (n) gametes.

- In the first stage of meiosis, known as Prophase I, the _____ attach to one another in a formation known as a _____.

Examine Prophase I.

- What happens to the chromosomes as they transition from Interphase to Prophase I?
- _____ carry _____ that influence the _____.
- The combination of the genes is first determined when the _____ form, and the legs of the _____ one another.

- The new gene sequence from the exchange influences the same traits as the original sequence, but the type of influence may be _____.
- To ensure the separation of the chromosomes in the tetrad, the _____ must first attach to _____.

Examine Metaphase I.

- Why is it important for the tetrads to attach to the spindle and line up in the middle of the cell?

Examine Anaphase I

- Explain how the tetrads are distributed.

Examine Telophase I.

- The fourth step in Meiosis I is characterized by the _____ and _____.
- How does the chromosomal information compare in the two newly created cells?

Meiosis Notes

- The two _____ into the next cycle of divisions known as Meiosis II.
- _____ and _____ as the _____ breaks down and _____.

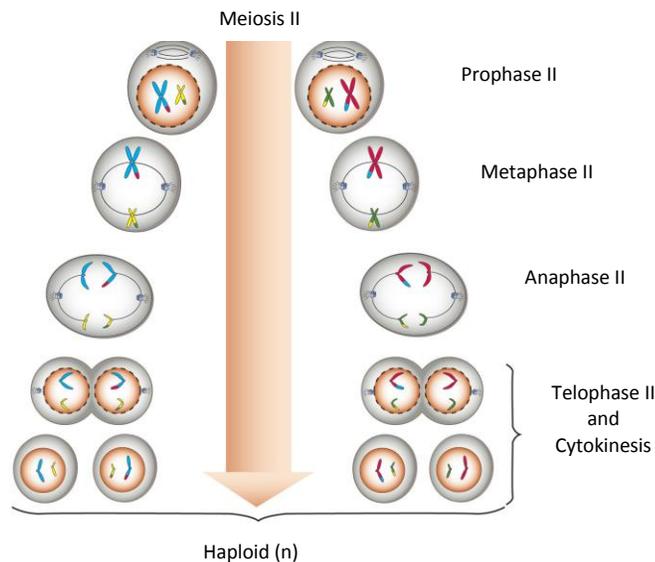
Compare Prophase I and Prophase II.

- What differences are there?

Examine Metaphase II .

How can you tell this cell is in Metaphase II and not in Metaphase I?

- _____ is the next phase in the second cycle of division.
- The _____ as the spindle fibers shorten.



- The last stage of the second division cycle is _____ as four cells are created during cytokinesis.

Compare the genetic information in each of the four cells.

- How are the chromosomes similar and different?

In human _____, all four cells formed during meiosis may become _____, each with a slightly _____ influence on a _____. In females, _____ cells will _____ into a haploid gamete.

- What possible outcomes would you predict if gamete production in females was similar to males?

- Using your understanding of meiosis, explain why brothers and sisters from the same parents have similarities and differences in appearance.