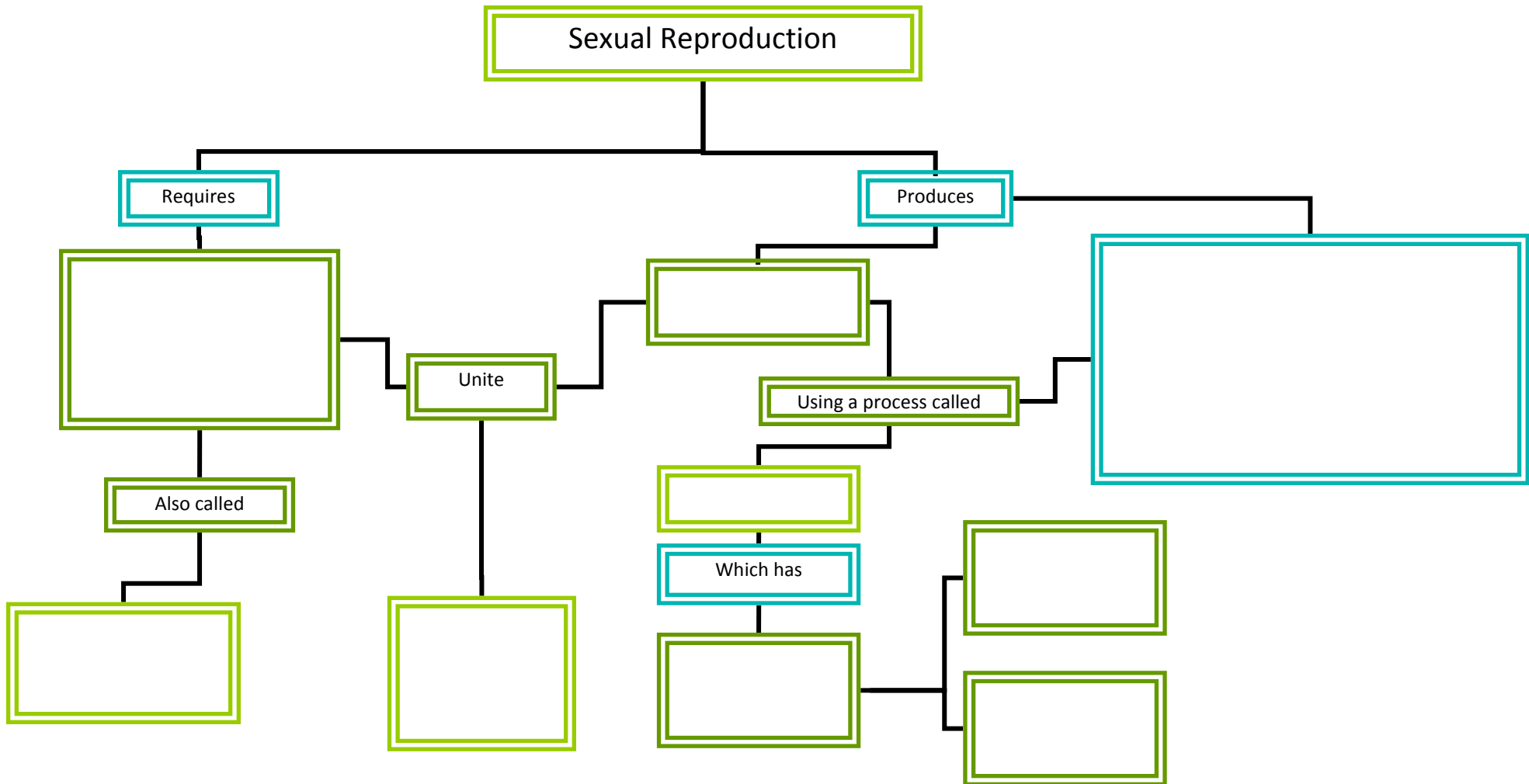


Meiosis Notes

	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, labeled 'Diploid (2n)', containing four chromosomes (two blue and two red). The process then moves to Prophase I, where the chromosomes condense and cross over. Metaphase I follows, with the chromosomes aligning at the center. Finally, Telophase I and Cytokinesis occur, resulting in 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 _____.

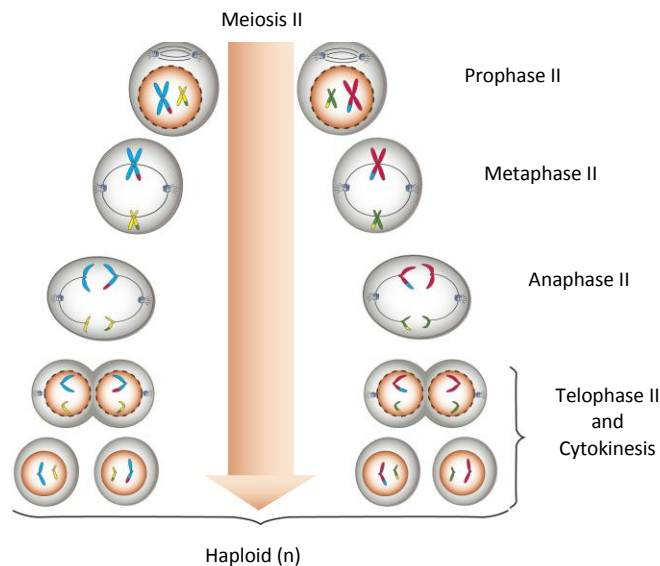
Compare Prophase I and Prophase II.

- 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.