

Name: _____

Date: _____

Lesson 4 Chromosome, DNA & Gene (Nelson p.30-31)

Learning Goals:

- A. I can use the appropriate terminology related to human cells, tissues, organs and systems.
- B. I can explain some health problems related to tissues, organs, and systems in humans.

Chromosome:

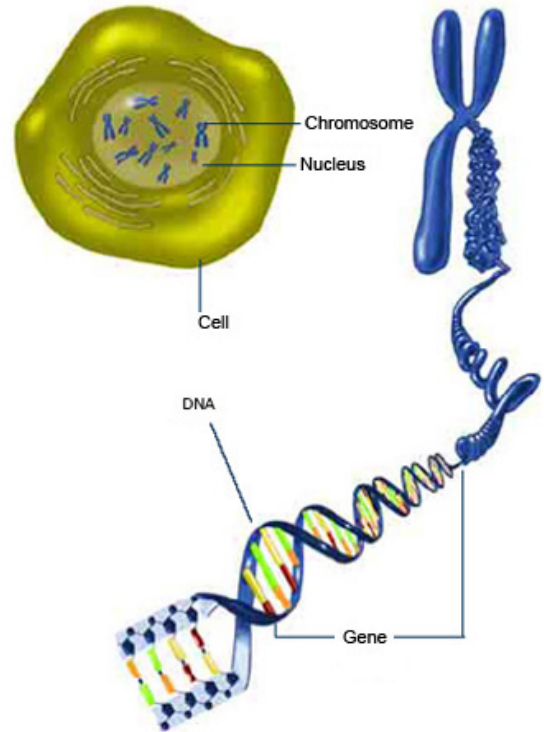
- A thread-like structure made mostly of _____
- Found in _____

DNA:

- **Deoxyribonucleic acid**
- Materials found in chromosomes that contain _____
- DNA is exactly the _____ in every cell in an organism's body

Gene:

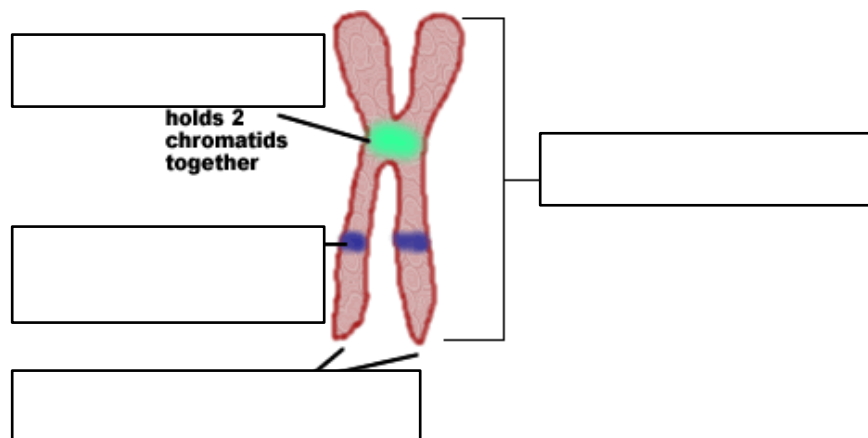
- A _____ of DNA
- Determines a _____
(e.g. eye colour)



Why is DNA Important?

- Every **DNA** contains hundreds or thousands of _____. **Genes** decide what kinds of _____ your cells can make, and therefore how your body might _____ or _____.
- *Examples:* Genes controls your features (hair and eye colour), and whether you can digest certain foods (milk).

How Chromosome Look Like

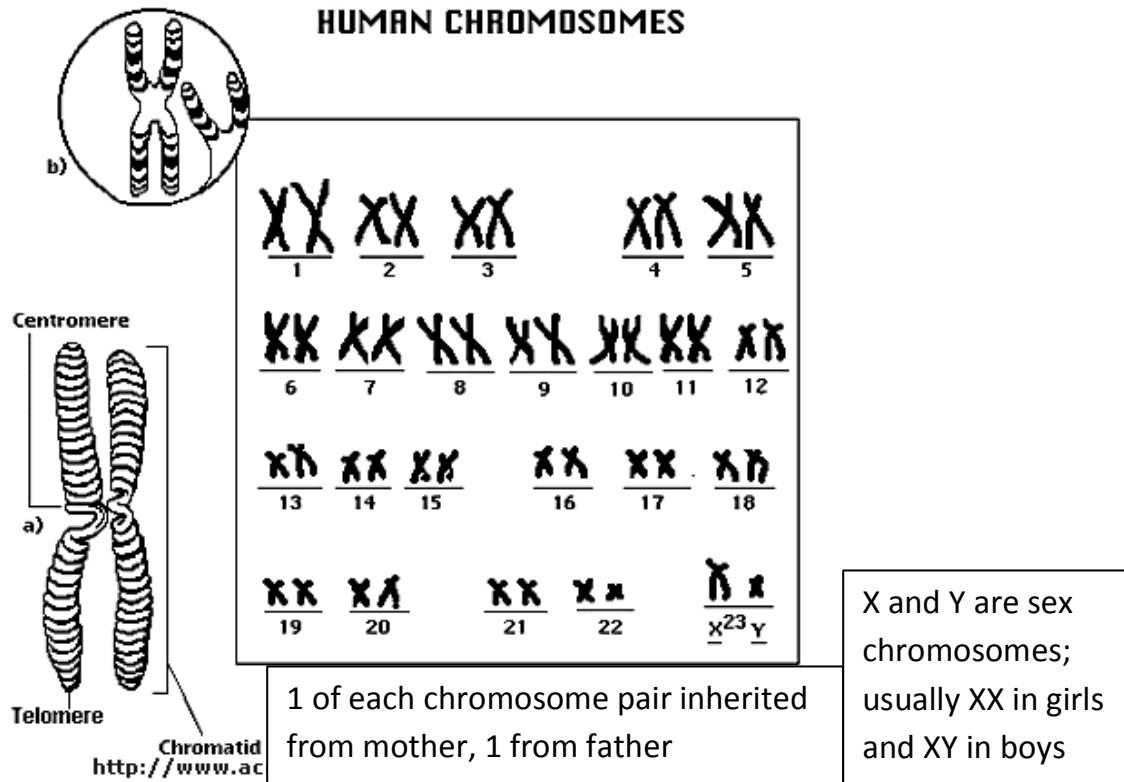


Chromosome Numbers

- Every plant and animal species has a _____ of chromosomes.
- Every body cell contains chromosomes come that are _____.

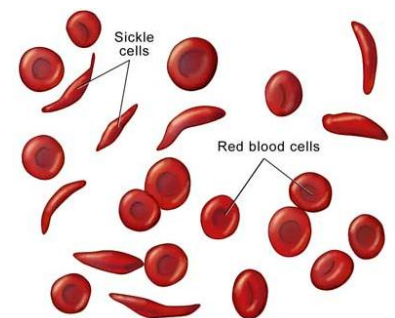
Examples: Human cells have 23 pairs (46 chromosomes)
Dogs have 39 pairs (78 chromosomes)

- Every parent contributes a _____ (egg or sperm cell) that has _____ chromosomes that are not paired.



DNA Mutations

- **DNA Mutations:** A _____ in DNA
Example: Sickle cell anemia
- If a mutation occurs in sperm or egg cell, it can be passed on to the offspring.



What Causes DNA Mutations?

- Mutations are caused by _____
- **Mutagens:** Substances that damage DNA, such as _____ (X-rays, UV rays) and _____ (mercury, tar in cigarettes)