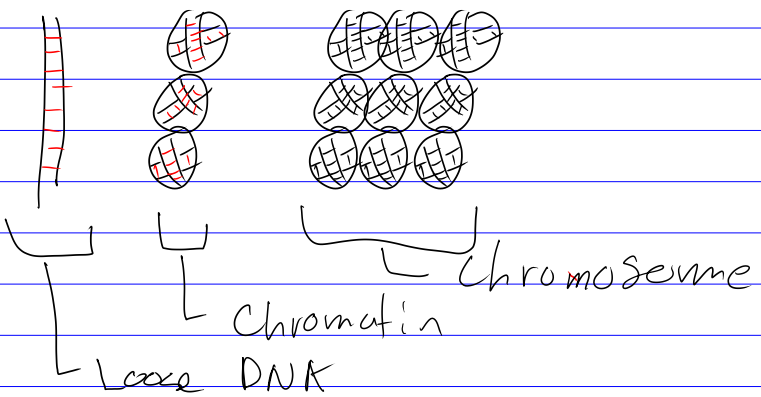
Lecture #3

3 things talked about last thursday

1. Peoples drawings of DNA from the first lecture
2. RNA and its bases
3. DNA structure and its base pairs

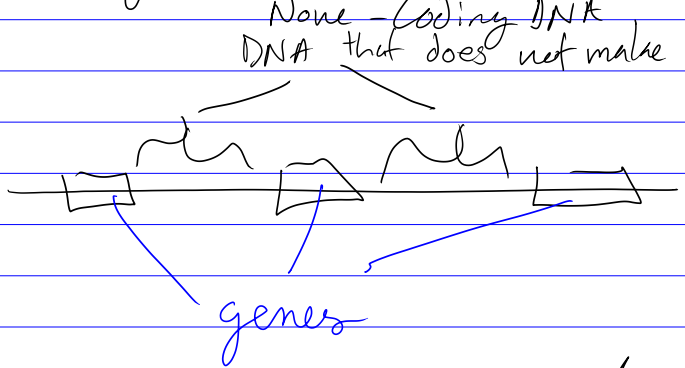
A molecule of DNA



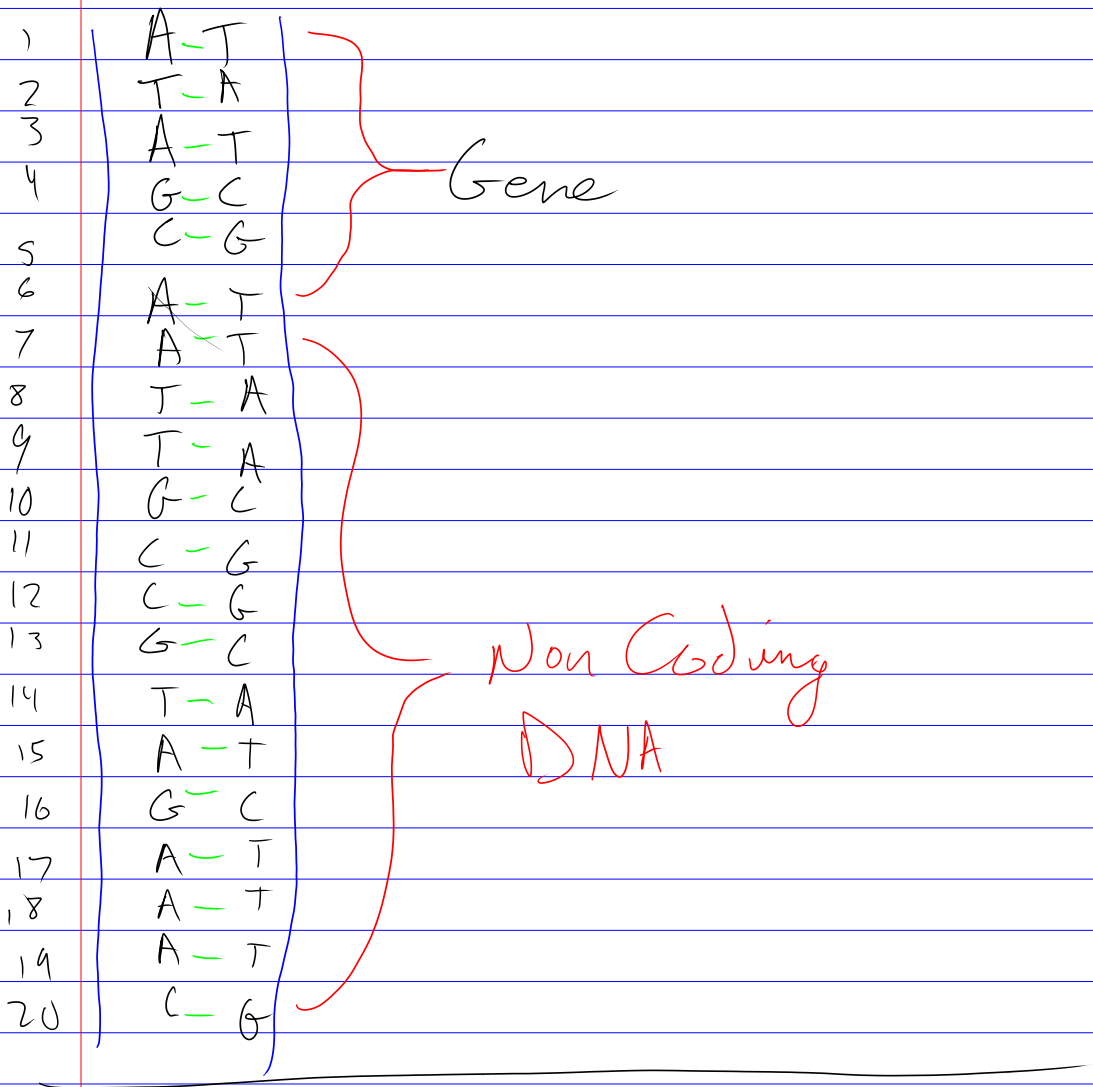
Genes

Gene - a segment of DNA

3 million base pairs in human gene
~ 21,000 genes
Average gene is 3,000 base pairs long.



98% of genome is non-coding DNA



Cell Theory

Robert Hooke: applied term "cell"

Antonie Leeuwenhoek: first to see a live cell.

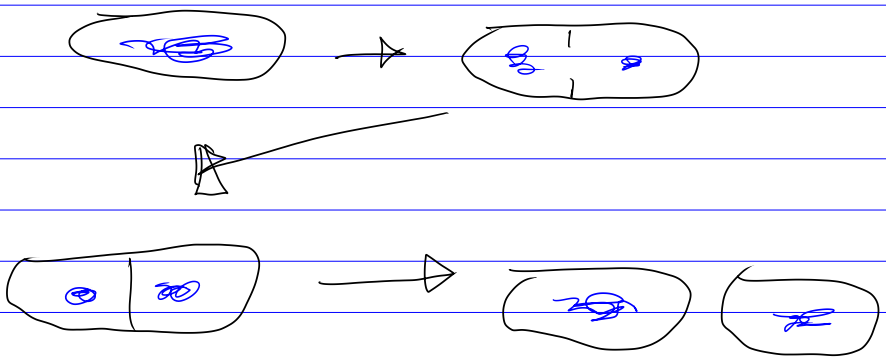
Theodor Schwann: disagreed with vitalism all living things come from cells

Schleiden: Discovered nucleus

Virchow: Said cells come from pre existing cells

- Cell Division:
  - Asexual
  - Sexual

- Binary Fission:
  - a type of asexual reproduction
  - occurs in bacteria



- Plant Reproduction
  - a sexual reproduction
  - using cuttings

- Regeneration:
  - asexual reproduction
    - regenerating form from a fragment

- Sexual Reproduction

egg + sperm = zygote

sexual reproduction results in a genetically unique individual

Cell Cycle:

Interphase
→ cell does its job and begins replicating DNA

Meitosis
→ cell division

Cell Division