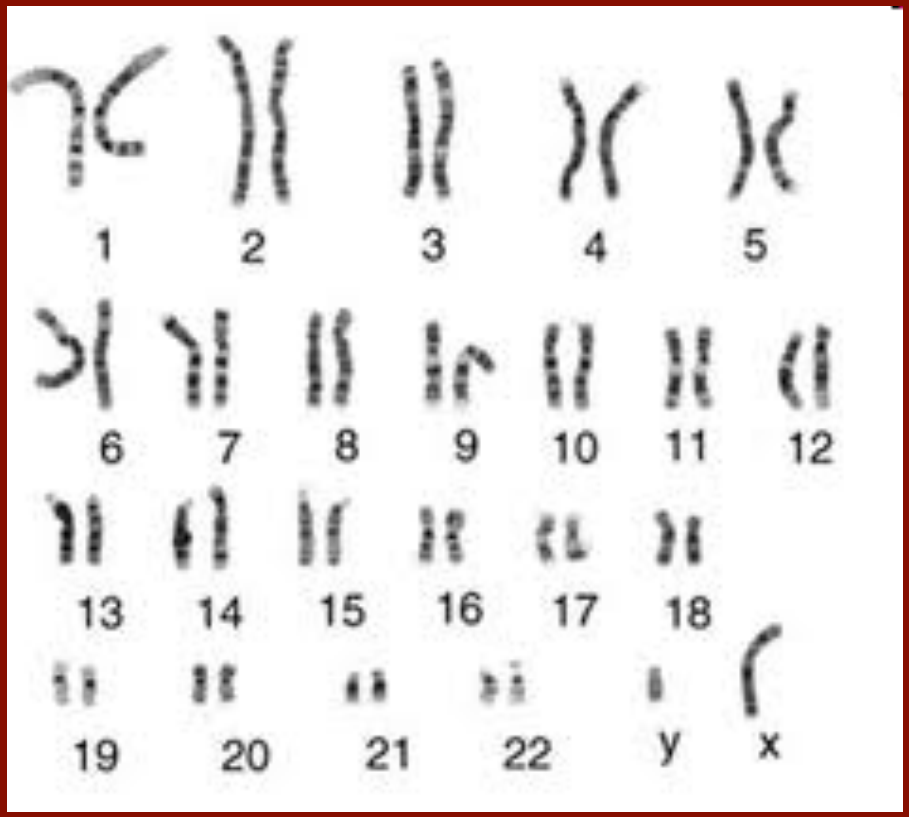
Ch. 14: Human Heredity

Essential questions:

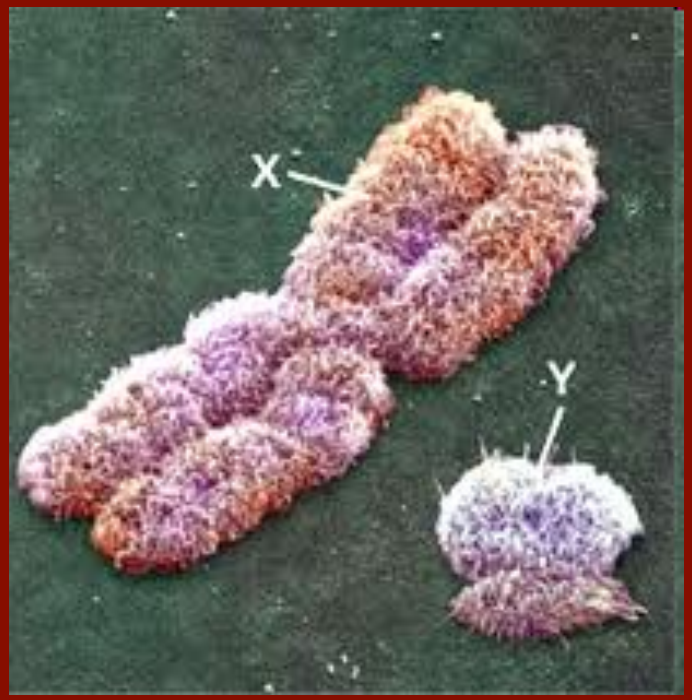
- How is blood type inherited?
- What is a ***sex-linked trait?***
  - Why are sex-linked disorders more common in males?
- What is ***non-disjunction***, and what problems it can cause?

Chapter 14–1: Human Heredity

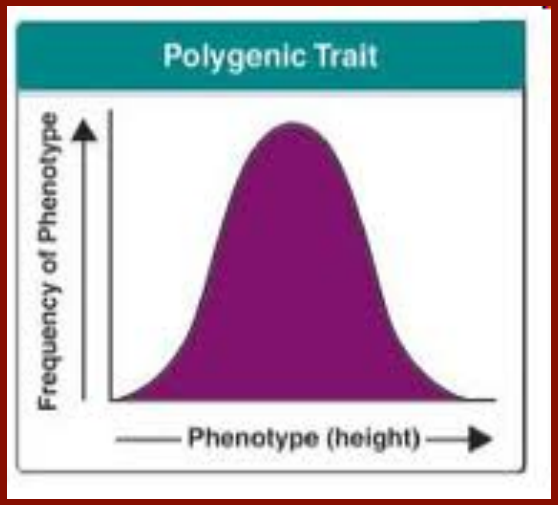
- Human Chromosomes
  - karyotype

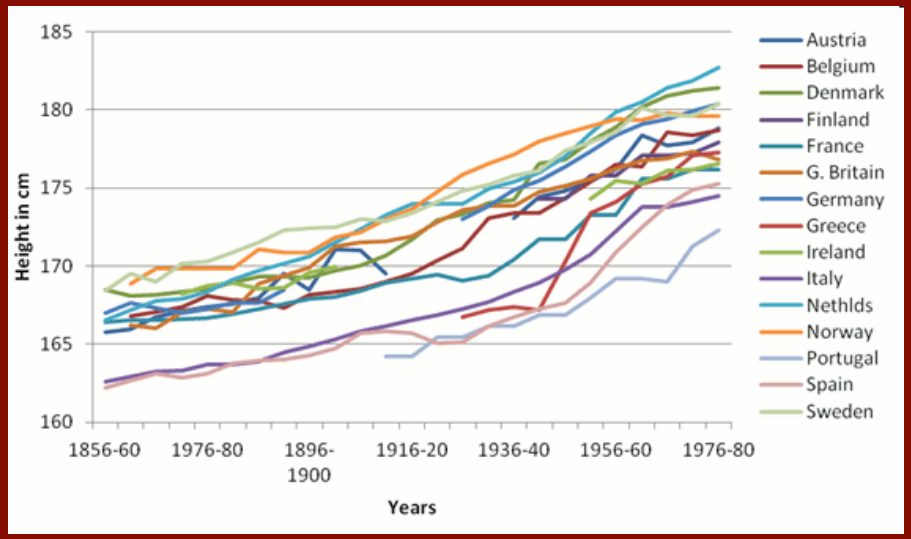


- sex chromosomes – XX or XY
- Autosomal chromosomes – non-sex chromosomes



- Human traits
  - Most polygenic
  - many traits influenced by environment
    - Ex: height & nutrition

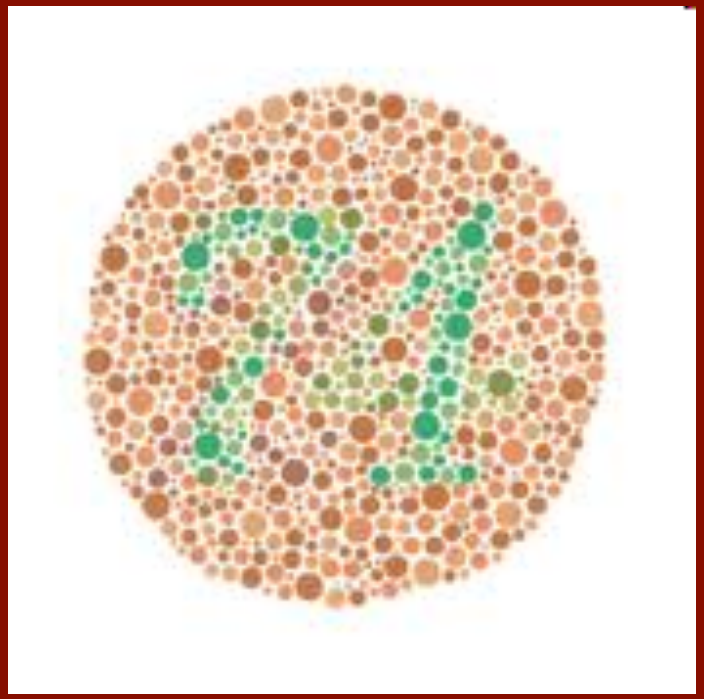




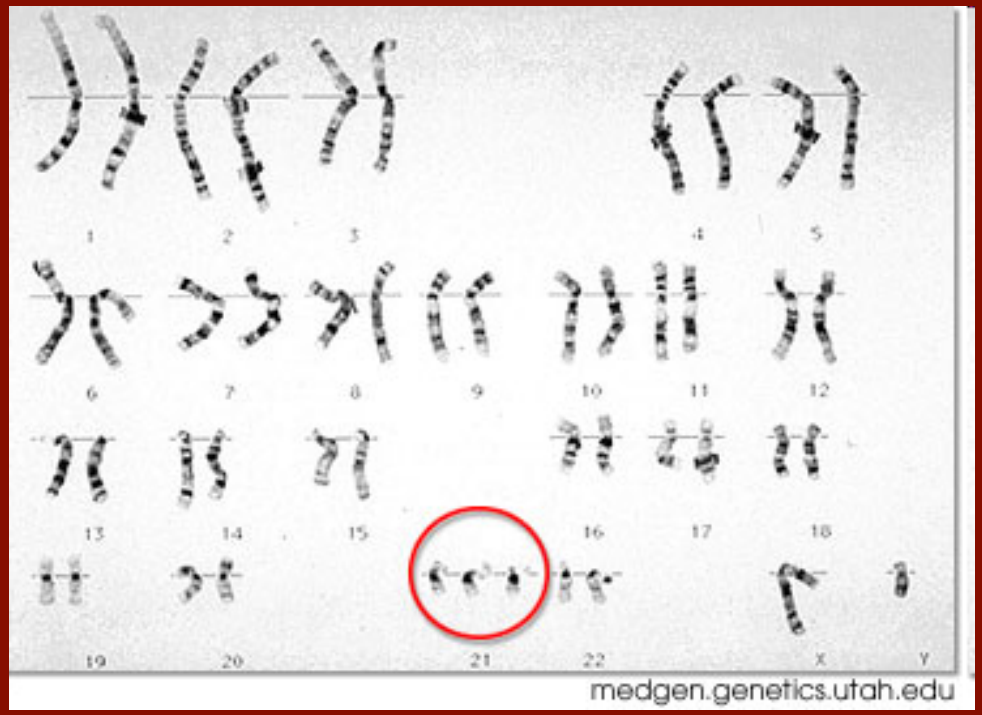
- Human Genes
  - Blood Group Genes
    - Rh group – + dominant, - recess.
    - ABO group
      - 3 alleles I_A I_B i
        - first 2 are codominant
        - I_AI_B = type AB
        - I_AI_A or I_A i = type A
        - I_BI_B or I_B i = type B
        - ii = type O
    - Universal donor – Type O
    - Universal recipient – Type AB

14–2 Human Chromosomes

- Sex-linked genes
  - found on X chromosome
  - males have only 1 X, all x-linked alleles expressed
    - Colorblindness
    - Hemophilia



- Chromosomal disorders
  - Nondisjunction -homologous chromosomes fail to separate
    - abnormal numbers of chromos. in gametes
    - Down Syndrome – 3 copies of #21 (“trisomy”)



- Sex Chromosome Disorders
  - Turner's syndrome – XO
  - Klinefelter's syndrome - XXY