

Student Learning Objectives

By the end of this class you should understand the following:

- The experiments that determined the nature of genetic inheritance
- The structure and chemistry of DNA and RNA
- How to read and write complementary strands of DNA
- The process of DNA replication
- Why DNA and RNA can only be polymerized in one direction
- How telomeres work and why they are linked to aging

Support videos:

- Crash Course
 - <http://www.youtube.com/watch?v=8kK2zwjRV0M>
- DNA/RNA comparison
 - <http://www.stanford.edu/dept/humbio/chem/riboseVsDeoxyribose.html>

Vocabulary:

- Covalent bond
- Hydrogen bond
- DNA
- RNA
 - Adenine
 - Guanine
 - Cytosine
 - Thymine
 - Uracil
- Phosphate
- Sugar backbone
 - Ribose
 - Deoxyribose
- Complementary strand
- 5' end
- 3' end
- Semiconservative replication
- DNA polymerase
- RNA polymerase
- Telomere
- Telomerase