

# WINK SHEET— DNA Structure and Replication

**Theme:** Each chromosome consists of a single DNA molecule. Each gene on the chromosome is a particular segment of DNA. The chemical structure of DNA provides a mechanism that ensures that information is preserved and transferred to subsequent generations.

## Expectations:

- \* Develop and use models at different scales to explain the relationship between DNA, genes, and chromosomes in coding the instructions for characteristic traits transferred from parent to offspring.
- \* Develop and use models to explain how genetic information (DNA) is copied for transmission to subsequent generations of cells (mitosis).

**Objectives:** On a scale of 0-5, with 0 being “I know absolutely nothing” and 5 being “I am exceptionally confident in my ability,” please rank your understanding of each objective at the end of the unit.

- \_\_\_\_ Recognize the chemical name of DNA and RNA
- \_\_\_\_ Identify the parts of a nucleotide
- \_\_\_\_ Recognize the names of the 5 nitrogenous bases and identify which nucleic acid they are related
- \_\_\_\_ Differentiate between the structure and function of the different types of nucleic acids
- \_\_\_\_ Relate the location of genes to chromosomes
- \_\_\_\_ Summarize how DNA acts as the blueprint for life
- \_\_\_\_ Sequence the steps of Replication

**Textbook:** We will be covering pages 192-215 in your textbook. Please mark which statements apply to your use of the textbook on this unit.

- \_\_\_\_ I read the entire reading for this chapter
- \_\_\_\_ I read part of the reading for this chapter
- \_\_\_\_ I used the textbook to assist in my understanding of vocabulary from this unit
- \_\_\_\_ I used the textbook to assist in my understanding of the objectives
- \_\_\_\_ We have a text book?
- \_\_\_\_ Other \_\_\_\_\_

## Vocabulary:

- |                    |                   |                  |
|--------------------|-------------------|------------------|
| • Nucleic acid     | • Phosphate group | • Genetic code   |
| • DNA              | • Complementary   | • Sex Chromosome |
| • RNA              | bases             | • Autosomes      |
| • Nucleotide       | • Chromosome      | • Replication    |
| • Nitrogenous base | • Chromatid       |                  |
| • Sugar            | • Gene            |                  |

## **Activities**

- DNA extraction
- The Secret of Photo 51 Movie
- The Scientist discovers DNA cartoon
- Cracking the code movie