ANSWER KEY

I CAN describe the basic structure of the DNA molecule.

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

P. \_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_

Ch 6 S. 1a Genetics: Structure of DNA

gene A ***gene*** is a DNA sequence which gives instructions for cell processes

 and for building cell structures.

Deoxyribonucleic DNA stands for ***Deoxyribonucleic Acid***

Acid Deoxyribose is the type of sugar found in DNA, nucleic means that the DNA is found in the nucleus.

Chromosome



 DNA is found in the nucleus, in a linear shape called a ***chromosome (DNA + protein)***

 DRAW A PICTURE of a chromosome

nucleotide DNA is composed of subunits called  ***nucleotides.***

sugar, phosphate, Each nucleotide is composed of ***sugar***, ***phosphate***, and ***nucleotide base***.

nucleotide base DRAW A PICTURE



A, T, C, G

Two strands of DNA bond together to form a twisted ladder or

double helix



***double*** ***helix*** a shape that we recognize as DNA.

Double helix On the ***double*** ***helix*** or **twisted** ***ladder*** the rails of the ladder are made from twisted ladder alternating sugar and phosphate; the rungs of the ladder are made from

 nucleotide base-pairs.



 *draw picture*

A, T, G, C The nucleotide bases on DNA are ***adenine (A), thymine (T), guanine (G), and***

***cytosine (C).***

base-pairing rules They always bond according to the ***base - pairing rules*** A-T and G-C.

 draw picture



Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

P. \_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_

Ch 6 S. 1a Genetics: History of DNA

Watson James B. ***Watson*** Ph.D. (22 yrs.) traveled to London, England to study

 the secret structure of DNA.

 Crick Francis ***Crick*** (32 yrs.) wanted to discover the structure of DNA.

Crick was a loud talker.

Wilkins Maurice ***Wilkins*** was using X-ray scatter to try and see DNA.

Franklin Rosalind ***Franklin*** worked with Maurice.

 Franklin used x-ray crystallography to construct the positions of the

***molecules***.

She discovered that the sugar & phosphate are the backbone of DNA, and lies on

the ***outside*** of the molecule and the helical structure of DNA has

***two*** strands. She was published but died before the Nobel Prize was given to Watson and Crick.

 1953 In ***1953*** Watson and Crick figure out how the parts of DNA fit together.

Nobel prize Crick, Watson, & Wilkins shared the ***Nobel Prize*** **\_** in 1963.

1963

 This discovery was the beginning of many new discoveries.