

DNA Structure Worksheet

www.nowiwonder.com

What does “DNA” stand for?

©Copyright Now I Wonder

2

Within which organelle is DNA found in eukaryotic cells?

- Nucleus
- Endoplasmic reticulum
- Ribosome
- Mitochondria
- Plasmid
- Golgi apparatus

©Copyright Now I Wonder

3

What long polymer molecules serve as the information storage device in a cell?

- Carbohydrates
- Acetylcholine
- Microvilli
- Nucleic acids
- Steroids
- Cyclic AMP

©Copyright Now I Wonder

4

True or False:
Nucleotides are composed of nucleic acids.

- True
- False

©Copyright Now I Wonder

5

What is a nucleotide composed of?
(Select all that apply)

- 5-carbon sugar
- Phosphate group
- Cholesterol
- GABA
- Nitrogenous base
- ATP

©Copyright Now I Wonder

6

How many different kinds of nucleotides does DNA contain?

- 1
- 2
- 3
- 4
- 5
- 6

Which component of a nucleotide differs between types of nucleotide?

Nitrogenous base

Describe the different kinds of nucleotides found in DNA.

How does a nucleic acid form?

How does the structure of a nucleic acid allow it to store information?

Which of the following best describes the structure of DNA

- 2 polynucleotide chains composed of mononucleotides covalently bonded between the sugar of one and the phosphate of another mononucleotides to form a sugar-phosphate backbone. Complementary nitrogenous bases attached to the sugar-phosphate backbone point inward toward each other and are linked by hydrogen bonds.
- 2 nucleotides bonded to the sugar molecule of a carbon isotope by covalent bonds. The isotopes form a sugar-carbon backbone. Complementary phosphoric bases attached to the sugar-carbon backbone point inward toward each other and are linked by covalent bonds.

Why are only two complementary base pairs possible in DNA?

Fill in the blank: Write the nucleotide that bonds to each of the listed nucleotides.

- Adenine (A):
- Cytosine (C):
- Guanine (G):
- Thymine (T):

Why are hydrogen bonds so essential to the structure of DNA?

The backbone of DNA consists of?

- Carbon-sulphur chains
- Sugar-phosphate chains
- Iron-carbon chains
- Lipid-sulphur chains

Describe Rosalind Franklin's contribution to the understanding of DNA structure.

Describe James Watson's and Francis Crick's contribution to the understanding of DNA structure?

Label the main components of DNA.

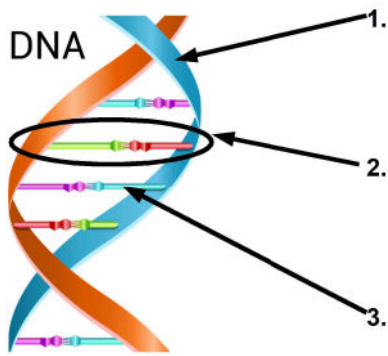


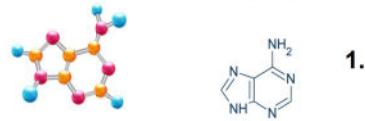
Image courtesy of Science Photo Library. Used with permission.

©Copyright Now I Wonder

19

Label these two DNA nucleotides.

NITROGENOUS BASES

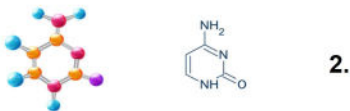


Images courtesy of Science Photo Library. Used with permission.

©Copyright Now I Wonder

20

Label these two DNA nucleotides.



Images courtesy of Science Photo Library. Used with permission.

©Copyright Now I Wonder

21

Resources Consulted

- Reece, Jane B., Taylor, Martha R., Dickey, Jean L., and Campbell, Neil A. 2006. *Campbell Biology: Concepts and Connections*. 7th ed. San Francisco: Pearson Education, Inc.
- Johnson, George B. 2012. *The Living World*. 7th ed. New York: The McGraw-Hill Companies, Inc.

©Copyright Now I Wonder

22

GREAT JOB!!

KEEP UP THE GREAT WORK!!

©Copyright Now I Wonder

23