

Instructions: Print each question on a sheet of cardstock. Different colors might make it easier. Cut the question portion off. Then cut the answer choices into separate strips. The questions are numbered so students work the more important ones (in case there is not enough time to do them all).

Attach this instruction card to the outside of the envelope:

DNA True or False

Instructions:

- 1. Remove the cards and True/False strips from the envelope.
Work together to answer the questions in order #1 - #7.**
- 2. Read each question card then choose the strip with the TRUE statement for the given question. Place this strip on the card and move on to the next question.**
- 3. When you have finished, ask your teacher for the key.**
- 4. Once you have checked the key, corrected and discussed any wrong answers, return cards and strips to the envelope.**

Question #5

Students are given data from an investigation that identified some of the chemical elements present in four different samples. The data is below.

Elements Present in Samples

Sample	Elements
1	Hydrogen, phosphorus, and nitrogen
2	Aluminum, silicon, and copper
3	Calcium, potassium, and nitrogen
4	Iron, oxygen, and magnesium

True statement:

Sample 1 is DNA

Sample 2 is DNA

Sample 3 is DNA

Sample 4 is DNA

Question #3

The DNA molecule is responsible for the direct coding of specific traits in an organism. This is the part of DNA that contains this code.

True statement:

The number of hydrogen bonds that hold the strands of DNA together.

The number of carbons in the DNA molecule

The sequence of nucleotide bases in the DNA molecule.

The sequences of phosphates along each strand.

Question #4

A student constructed a model of a section of DNA. The model is shown below:



True statement:

This model is inaccurate because the base pairs are incorrect.

This model is accurate because it contains correctly paired bases.

This model is inaccurate because some typical bases in DNA are missing.

This model is accurate because it shows each base splitting to form a double helix.

Question #6

Nitrogenous bases are located on both strands of the DNA double helix. What is the significance of the nitrogenous bases?

True statement:

The number of adenines and cytosines determines the type of RNA that will be produced.

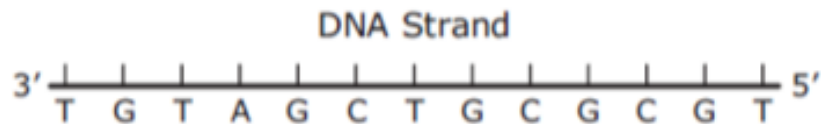
The order of nitrogenous bases determines the order of amino acids in the proteins synthesized.

The amount of thymine and guanine in the DNA molecules determines the length of the genes.

The type of hydrogen bonding between the nitrogenous bases determines which amino acid will be added to the peptide chain.

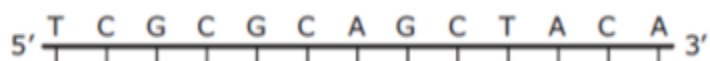
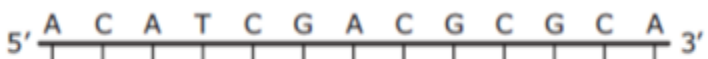
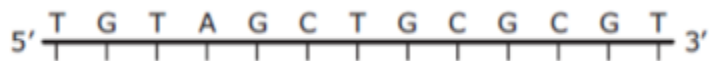
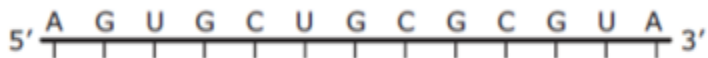
Question #7

DNA contains nitrogenous bases that pair with other nitrogenous bases in very specific ways. Below is a section of DNA.



What would the complementary strand look like?

True statement:



Question #1

How does the DNA molecule below compare among humans, trees and mushrooms?



True statement:

The sequence of the nitrogen bases is different among species, but the overall structure is the same.

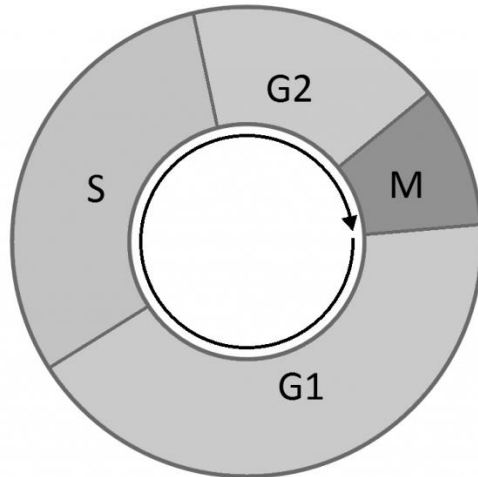
The type of nitrogen bases is different among species, but the overall structure is the same.

The elements in the nucleotides differ among species, but the sequence of the nitrogen bases is the same.

The pattern of the sugars and phosphates differ among species, but the sequence of the nucleotides is the same.

Question #2

The cell cycle consists of several different phases.
Specific activities occur in each phase.



True statement:

DNA replicates during G_1 phase

DNA replicates during G_2 phase

DNA replicates during S phase

DNA replicates during Mitosis