

DNA Homework

Pages 287-294

Name _____

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|----------------------------|---|
| ____ 1. Fredrick Griffith | a. Made of a sugar, a phosphate group, and a nitrogen base—a strand of these make up DNA |
| ____ 2. Rosalind Franklin* | b. A pairs with T and C pairs with G |
| ____ 3. Oswald Avery | c. Concluded that the genetic material of the bacteriophage was DNA and not protein. |
| ____ 4. Hershey and Chase | d. She used X-Ray diffraction to try and figure out the shape of DNA |
| ____ 5. Watson and Crick* | e. Tried to find the vaccine for pneumonia but really discovered transformation in cells that he had thought were harmless but turned out to be deadly. |
| ____ 6. Transformation* | f. They discovered that DNA was actually the double helix shape and made the first model of DNA. |
| ____ 7. Nucleotide * | g. The process that one strain of bacteria had turned into the deadly strand by transfer of genetic material |
| ____ 8. Base Pairing * | h. Discovered that DNA stores and transmits genetic material |

Use the words with an * to fill in the paragraph below.

The 1950s is when we first started to get an idea about the shape of DNA. (9)_____ used a method called X-ray diffraction to get the first idea about DNA's structure. After her rough images of DNA (10)_____ observed her images and immediately recognized the pattern associated with it and called it a double helix. Now we know more about DNA. We are aware that they are made of 3 parts that are connected and called a (11)_____. Nucleotides match up with each other: adenine to thymine and guanine to cytosine, this is called (12)_____. Sometimes this DNA can taken from one organism and put into the other causing different effects, this is known as going through (13)_____.

Pages 295-299

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|-------------------------|---|
| ____ 14. Chromatin | a. Proteins that DNA wrap around |
| ____ 15. Histone | b. Duplicating DNA in a copying process |
| ____ 16. DNA polymerase | c. Enzyme that is involved in DNA replication |
| ____ 17. Replication | d. Consists of DNA that is tightly coiled around proteins called histones |

Use the words listed above #14-17 in the paragraph below.

Before your cells can divide you have to make a copy of your DNA to go into the new cell. So, you have to go through the process of copying called (18)_____. The enzyme that is involved with DNA replication is known as (19)_____. DNA wraps itself around proteins called (20)_____ and this produces a coiled appearance. The name for the DNA and proteins together is (21)_____.

More on the Back!!

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|---------|----------------|---|
| ___ 22. | Gene | a. DNA sequence that code for proteins |
| ___ 23. | Messenger RNA | b. DNA parts that do not code for proteins |
| ___ 24. | Ribosomal RNA | c. Three consecutive nucleotides that specify a single amino acid |
| ___ 25. | Transfer RNA | d. RNA molecule that carry copies |
| ___ 26. | Transcription | e. What ribosomes are made of |
| ___ 27. | RNA polymerase | f. Transfers each amino acid to the ribosome |
| ___ 28. | Promoter | g. Where the enzymes binds |
| ___ 29. | Intron | h. Coded DNA instructions that control the production of proteins within the cell |
| ___ 30. | Exon | i. When RNA molecules are produced by copying part of the nucleotide sequence of DNA into a complementary sequence in RNA |
| ___ 31. | Codon | |
| ___ 32. | Translation | j. Enzyme that is similar to DNA polymerase and uses one strand of DNA to make a strand of RNA |
| ___ 33. | Anticodon | k. Decoding of an mRNA message into a polypeptide chain |
| | | l. Complementary or opposite to an mRNA codon |

Using the Codon wheel on page 303 ... identify what the following mRNA sequences code for in amino acids.

34. AUG _____
35. UGA _____
36. GCU _____
37. CCC _____
38. UGG _____
39. GUU _____
40. AAC _____