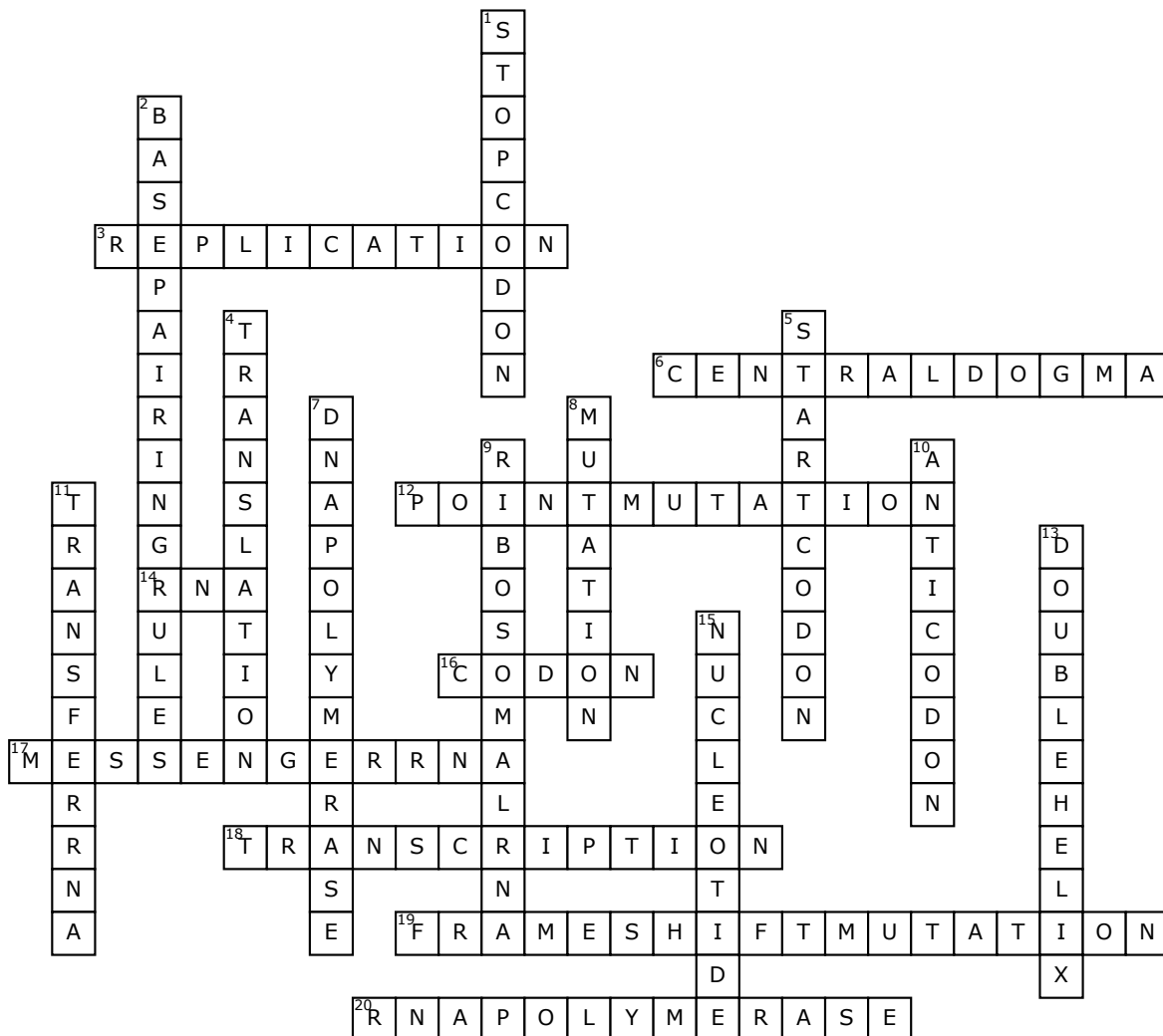


DNA Crossword Puzzle



Across

3. Genetics. The process by which double-stranded DNA makes copies of itself, each strand, as it separates, synthesizing a complementary strand.

6. Molecular biology describes the two-step process, transcription and translation, by which the information in genes flows into proteins.

12. A type of mutation that causes a single nucleotide base substitution, insertion, or deletion of the genetic material, DNA or RNA.

14. Any of a class of single-stranded molecules transcribed from DNA in the cell nucleus or in the mitochondrion or chloroplast

16. A triplet of adjacent nucleotides in the messenger RNA chain that codes for a specific amino acid in the synthesis of a protein molecule.

17. The form of RNA in which genetic information transcribed from DNA as a sequence of bases is transferred to a ribosome.

18. The first step of gene expression, in which a particular segment of DNA is copied into RNA.

19. A number of nucleotides in a DNA sequence that is not divisible by three.

20. An enzyme that synthesizes the formation of RNA from a DNA template during transcription.

Down

1. A codon that stops the synthesis of a protein molecule.

2. Constraints imposed by the molecular structure of DNA and RNA on the formation of hydrogen bonds among the four purine and pyrimidine bases such that adenine pairs with thymine or uracil, and guanine pairs with cytosine.

4. The process follows transcription in which the DNA sequence is copied (or transcribed) into an mRNA.

5. A codon that starts the synthesis of protein molecule.

7. Any of a class of enzymes involved in the synthesis of deoxyribonucleic acid from its deoxyribonucleoside triphosphate precursors.

8. Occurs when a DNA gene is damaged or changed in such a way as to alter the genetic message carried by that gene.

9. A type of RNA, distinguished by its length and abundance, functioning in protein synthesis as a component of ribosomes.

10. A sequence of three nucleotides in a region of transfer RNA that recognizes a complementary coding triplet of nucleotides in messenger RNA during translation by the ribosomes in protein biosynthesis.

11. A small RNA molecule, consisting of a strand of nucleotides folded into a clover-leaf shape, that picks up an unattached amino acid within the cell cytoplasm and conveys it to the ribosome for protein synthesis.

13. A pair of parallel helices intertwined about a common axis, especially that in the structure of the DNA molecule.

15. A compound consisting of a nucleoside linked to a phosphate group. Nucleotides form the basic structural unit of nucleic acids such as DNA.