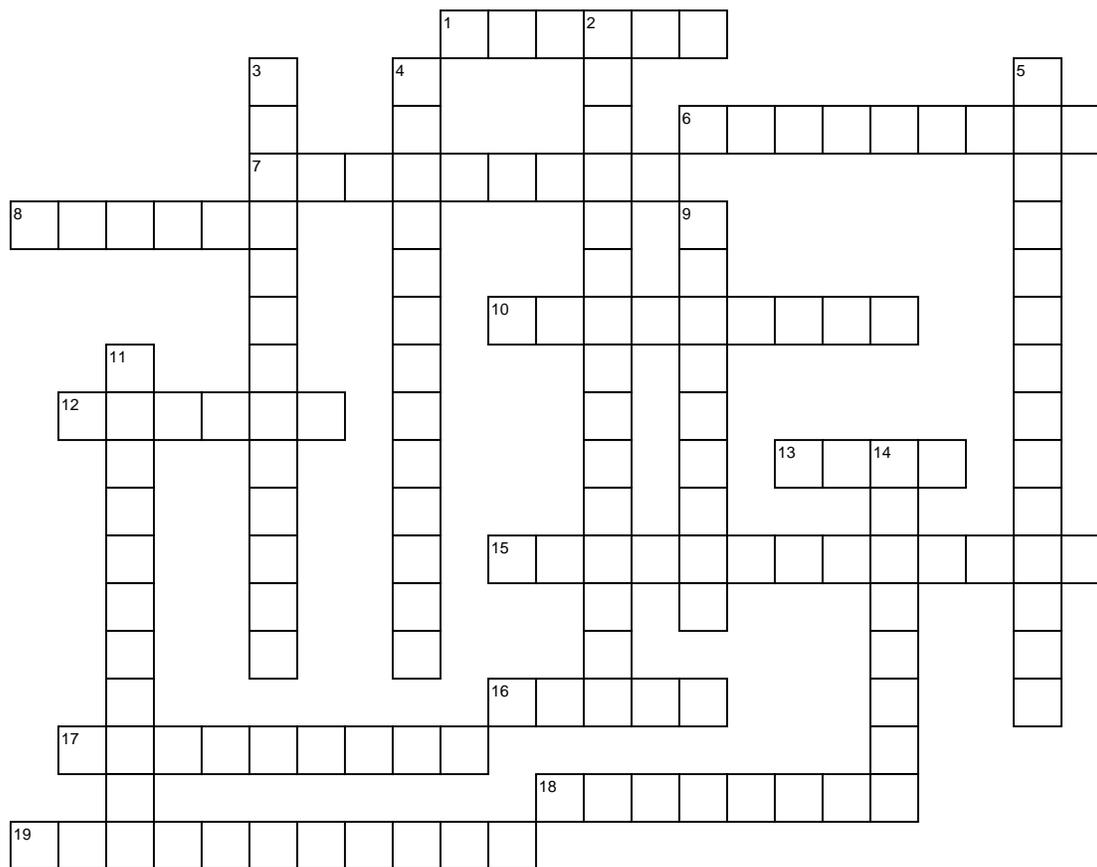


Roland-Story Biology

Chapter 10 How Proteins are Made



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ACROSS

- 1 a section of DNA in a gene that does not code for any amino acids and that is transcribed into RNA but is removed before it is translated
- 6 a type of RNA that carries to the ribosomes the information to make a protein
- 7 an area on a tRNA molecule that consists of three bases that are complementary to the codon of mRNA
- 8 a unit of gene regulation and transcription in bacterial DNA that is made up of a promoter, an operator, and one or more structural genes
- 10 a gene system whose operator gene and three structural genes control lactose metabolism in *E. coli*
- 12 one of the four bases that combine with sugar and phosphate to form a nucleotide subunit of RNA; uracil pairs with adenine
- 13 a section of DNA in a gene that codes for the amino acids in a protein and for the beginning and the end of a coding sequence
- 15 an enzyme that starts (catalyzes) the making of RNA by using a strand of a DNA molecule as a template
- 16 a three-nucleotide sequence on an mRNA molecule that codes for an amino acid or signifies a start signal or a stop signal
- 17 a type of RNA that, together with proteins, makes up a ribosome; ribosomes coordinate the joining of tRNA molecules to mRNA codons when proteins are made
- 18 a type of RNA that transfers amino acids to the growing end of
- 19 the rule that describes how the order of nucleotides, read in groups of three consecutive nucleotides (triplets) that correspond to specific amino acids, specifies the order of amino acids in a protein

a protein chain during translation

the rule that describes how the order of nucleotides, read in groups of three consecutive nucleotides (triplets) that correspond to specific amino acids, specifies the order of amino acids in a protein

DOWN

- 2 a molecule made up of a chain of nucleotides; RNA plays a role in protein synthesis
- 3 the process of making RNA by using one strand of a DNA molecule as a template
- 4 a mutation in which only one nucleotide or nitrogenous base in a gene is changed
- 5 the display of the genetic material of an organism in the form of specific traits
- 9 a regulatory protein that binds to an operator and blocks transcription of the genes of an operon
- 11 the part of protein synthesis that takes place at ribosomes and that uses the codons in mRNA molecules to specify the sequence of amino acids in polypeptide chains
- 14 a short sequence of viral or bacterial DNA to which a repressor binds to prevent transcription (mRNA synthesis) of a gene in an operon