

GLOSSARY

A

adenine a nitrogen-containing base that is a component of a nucleotide (185)

anticodon a region of tRNA consisting of three bases complementary to the codon of mRNA (195)

B

base-pairing rule the rule stating that in DNA, cytosine pairs with guanine and adenine pairs with thymine and in RNA, adenine pairs with uracil (187)

C

codon a group of three sequential nitrogen bases of an mRNA molecule (193)

complimentary base pairs the name given to a set of two proteins that normally pair with one another according to the base-pair rule (187)

cytosine a nitrogen-containing base; a pyrimidine of DNA and RNA (185)

D

deoxyribose the sugar molecule in a DNA nucleotide (185)

DNA polymerase an enzyme that binds to the separated strands of DNA and assembles each strand's complement in replication (188)

double helix the shape of a DNA strand (186)

G

genetic code triplets of nucleotides in mRNA that determine the sequence of amino acids in protein (193)

guanine a nitrogen-containing base that is a component of a nucleotide (185)

H

helicase an enzyme that separates DNA strands before replication (188)

M

messenger RNA (mRNA) the type of RNA that carries genetic information from the nucleus to the ribosomes (191)

GLOSSARY

mutation a change in DNA (189)

N

nitrogen-containing base a DNA nucleotide containing nitrogen, a sugar molecule, and a phosphate group (185)

P

promoter a nucleotide sequence on a DNA molecule that, when attached to an RNA polymerase molecule, will initiate transcription of a specific structural gene (192)

protein synthesis the formation of proteins using information coded on DNA and carried by RNA (193)

purine an organic molecule that has a double ring of carbon and nitrogen atoms (186)

pyrimidine an organic molecule that has a single ring of carbon and nitrogen atoms (186)

R

replication the process by which DNA copies itself during interphase (188)

replication fork the points at which the DNA strands separate during replication (188)

ribose the five-carbon sugar in RNA (190)

ribosomal RNA (rRNA) the type of RNA found in a ribosome (191)

RNA polymerase the primary transcription enzyme (192)

S

start codon the codon AUG which engages a ribosome to start translating an mRNA molecule (194)

stop codon causes the ribosome to stop translating mRNA; UAA, UAG, UGA (194)

GLOSSARY

T

termination signal a specific sequence of nucleotides that marks the end of a gene in eukaryotes (192)

thymine a nitrogen-containing base, one component of a nucleotide (185)

transcription the process in which RNA is made from DNA (191)

transfer RNA (tRNA) the type of RNA that carries amino acids from the cytoplasm to the ribosomes (191)

translation the process of converting the genetic code in RNA into the amino acid sequence that makes up a protein (194)

U

uracil a nitrogen-containing base found in RNA (190)