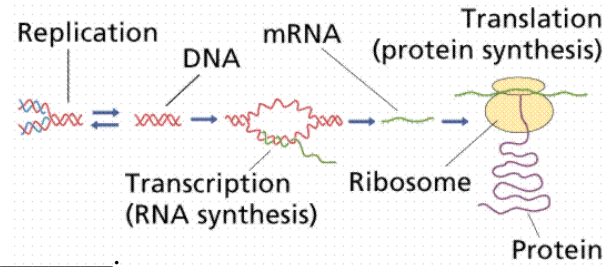


RNA Worksheet

Objectives: • Learn transcription and translation



Structure of RNA

- The sugar in a nucleotide of RNA is _____
- The pyrimidine bases are _____ and _____.
- The purine bases are _____ and _____.
- In complimentary base pairing, _____ bonds with _____ and _____ bonds with _____.
- RNA is a _____-stranded polymer.
- There are _____ types of RNA each with its only function.

Comparison of Nucleic Acids

- The five-carbon sugar in RNA is _____ whereas in DNA it is _____.
- In RNA the base _____ is substituted for _____.
- DNA molecules are double stranded and RNA molecules are _____ stranded.
- In terms of length, DNA molecules are much _____ than RNA molecules.
- DNA is only found in the _____ of a cell.

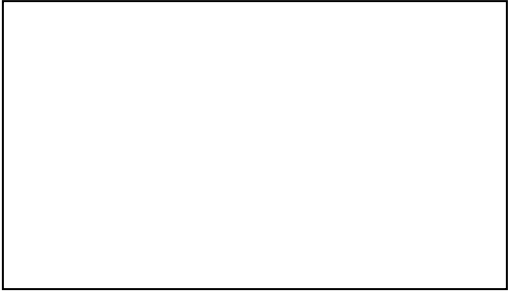
Transcription

- Making a messenger RNA using DNA as a template is called _____.
- In the cytoplasm, mRNA delivers the code to the _____.
- To the right, construct a messenger RNA molecule from a DNA strand. Use the correct complimentary base pairing. Use colored pencils to show the DNA and mRNA strands.
 - Only one side of the DNA molecule is copied during transcription
 - Remember that there is **no thymine in RNA**. You must substitute uracil.

DNA Strand		→	DNA	mRNA
1	2		Strand 1	Strand
A	T		—	
C	G		—	
T	A		—	
T	A		—	
A	T		—	
C	G		—	
G	C		—	
C	G		—	
G	C		—	
C	G		—	
A	T		—	
T	A		—	

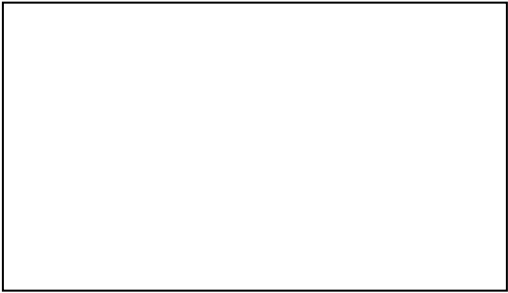
Messenger RNA

- 15. mRNA stands for _____.
- 16. mRNA has the code for making _____.
- 17. mRNA is produced in the _____.
- 18. Draw a labeled diagram of an mRNA strand →



Transfer RNA

- 19. tRNA stands for _____.
- 20. tRNA carry _____ from the cytoplasm to the ribosomes.
- 21. One end of the tRNA is specific for a single type of _____.
- 22. The other end of the tRNA contains three unpaired bases called an _____.
- 23. Draw a labeled diagram of the “cloverleaf” shape of a tRNA



Ribosomal RNA

- 24. rRNA stands for _____.
- 25. rRNA forms _____ which are the sites of protein synthesis.
- 26. rRNA is produced in the _____ of the cell.
- 27. Draw a labeled diagram of a ribosome

