



RNA

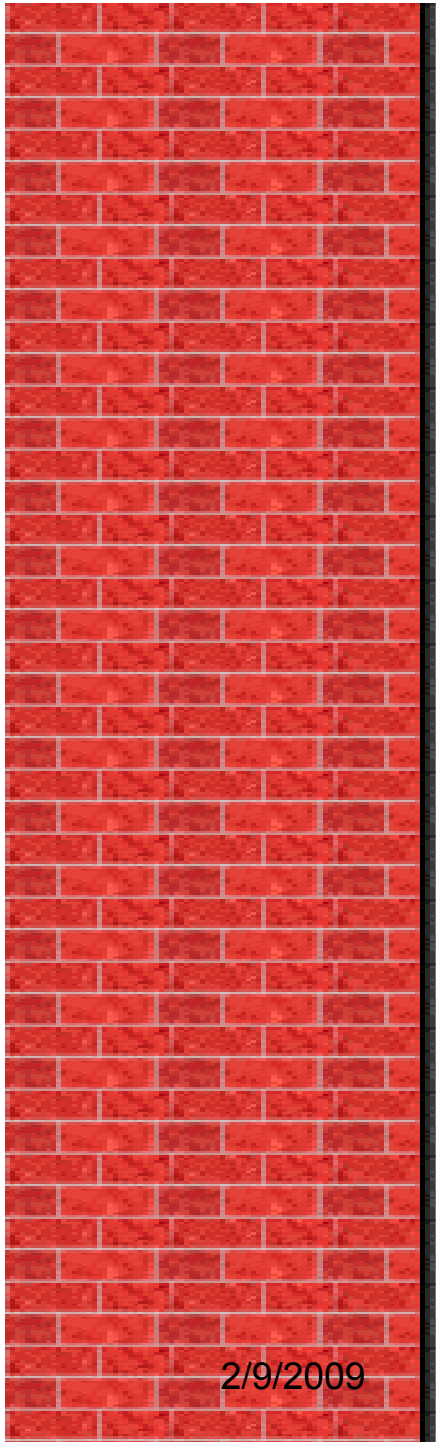
And Transcription

Characteristics of RNA

- RNA stands for Ribose Nucleic Acid
- Single strand of nucleotides
- Sugar-Ribose
- Four bases: Adenine, Guanine, Cytosine and Uracil (U)

Types of RNA

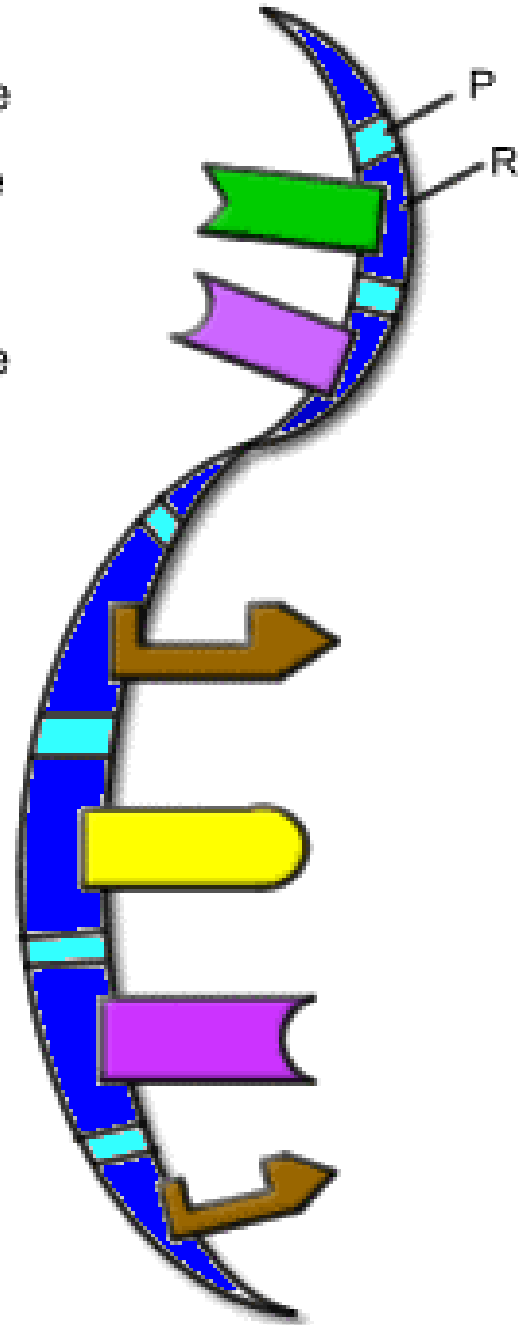
	Structure	Function
mRNA	single, uncoiled strand	transmits information from DNA and serves as a template for protein synthesis
tRNA	single strand folded back on itself	brings amino acids to ribosomes for protein synthesis
rRNA	globular	rRNA and proteins make up ribosomes



- Adenine
- Guanine
- Uracil
- Cytosine

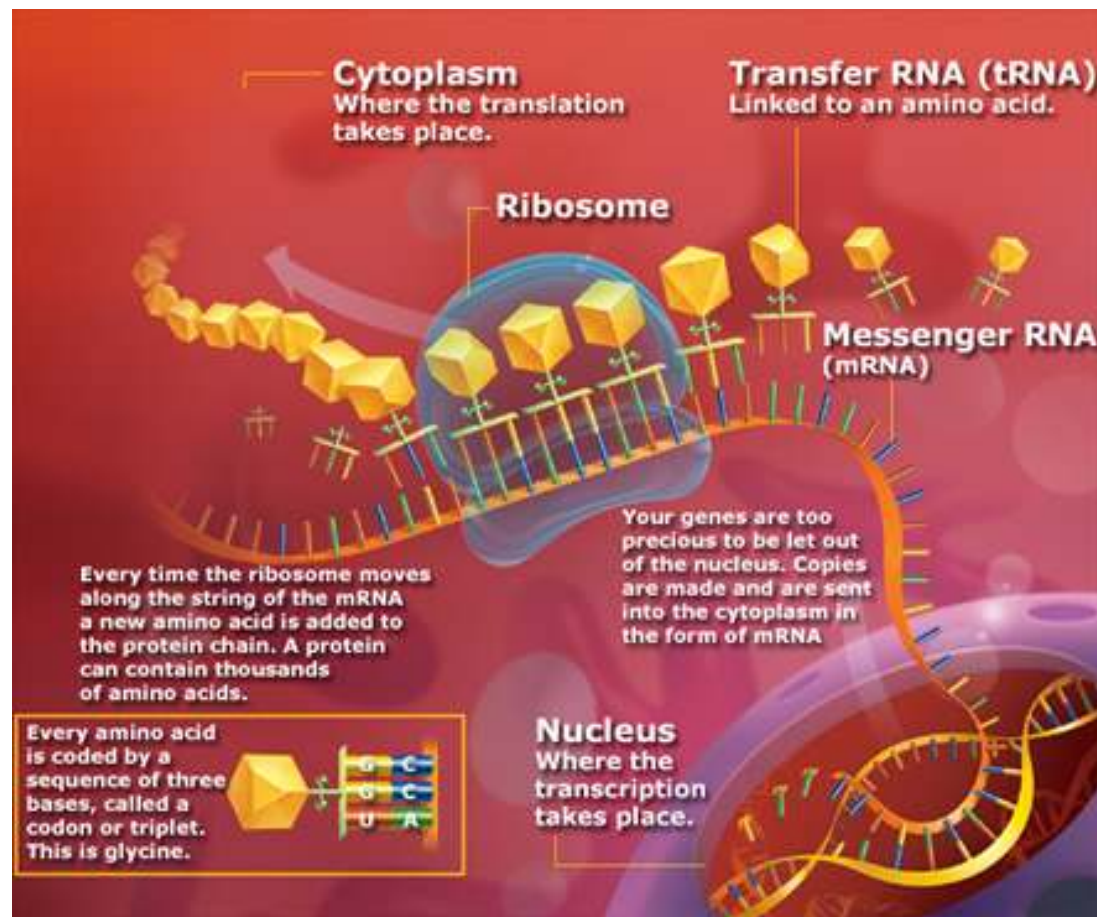
P= phosphate

R= Ribose



Location

- Move between Nucleus, Cytoplasm and Ribosomes



2/9/2009

Free template from www.brainybetty.com



Transcription

Like a grade transcript or a talk show transcript—a copy that is sent from one place to another

- Transcription is the process of copying DNA onto an RNA strand
- Type of RNA responsible:
 - m-RNA (messenger RNA) copies the genetic information from a DNA strand so that it may leave the nucleus and be taken to the ribosome.
- Location:
 - Transcription takes place in the nucleus

Steps of Transcription

1. DNA unwinds, unzips
2. m-RNA enters the nucleus and free m-RNA nucleotides pair up with open bases on DNA strand.

***Remember:** Guanine still pairs with Cytosine, but Adenine on a DNA strand will pair up with Uracil (U) on a m-RNA strand!!

Transcription Practice






DNA strand:

C G A T C A T C A T T A G

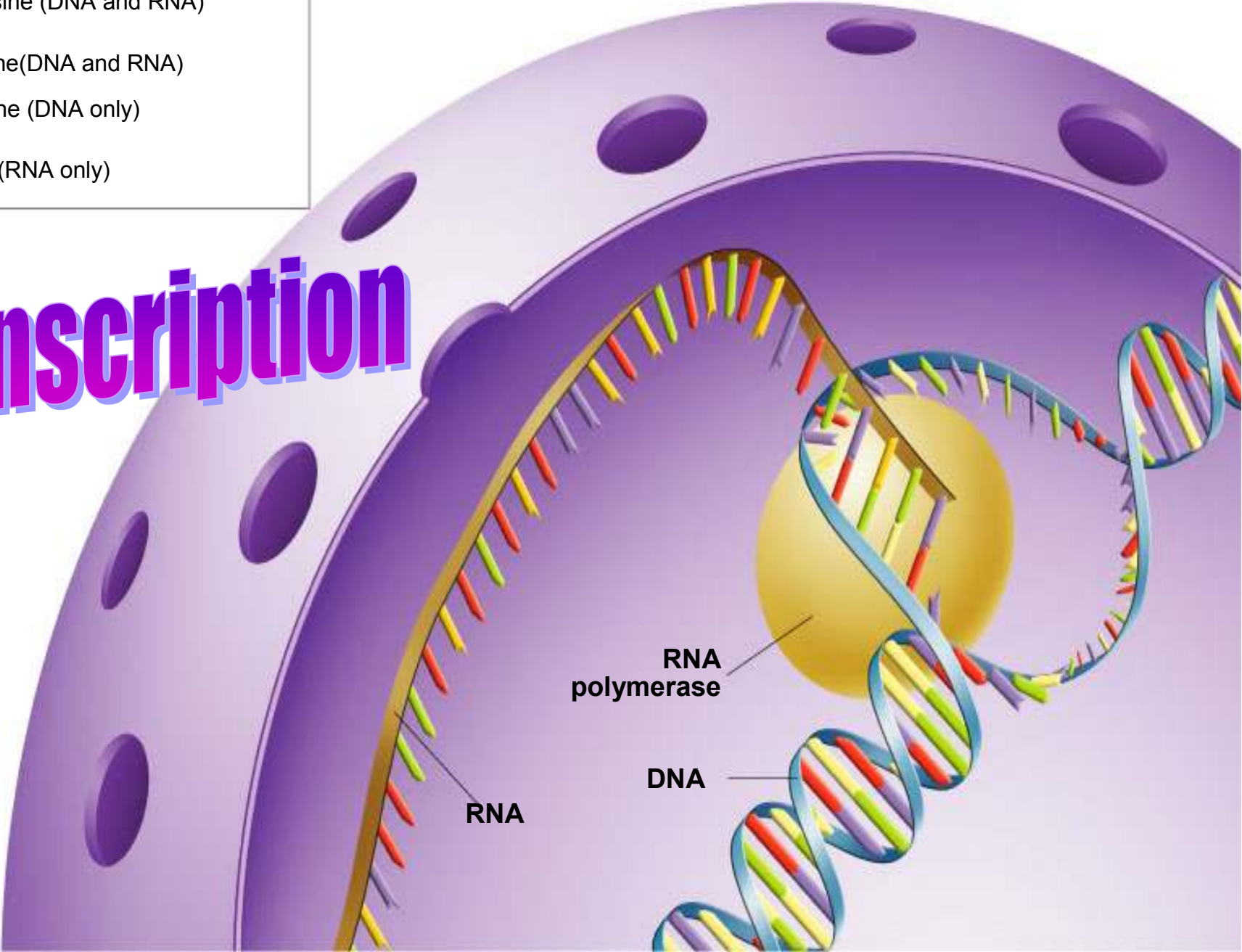
mRNA strand 

Steps of Transcription (continued)

- 3. After bases pair, mRNA breaks away. DNA strands rejoin and recoil.**
- 4. m-RNA leaves the nucleus and enters the cytoplasm to carry information to the ribosome.**

	Adenine (DNA and RNA)
	Cytosine (DNA and RNA)
	Guanine (DNA and RNA)
	Thymine (DNA only)
	Uracil (RNA only)

Transcription



For tomorrow:

- Proteins are made on the ribosome.
- Building blocks of Proteins are amino acids.