



Proteins Synthesis-Transcription



DNA codes for Proteins

_____ do the nitty-gritty jobs of every living cell.

The importance of _____ is that it contains the information that is used to make all of the proteins on which life depends.

DNA is the _____

Proteins are _____

The Central Dogma

The central dogma states that information flows

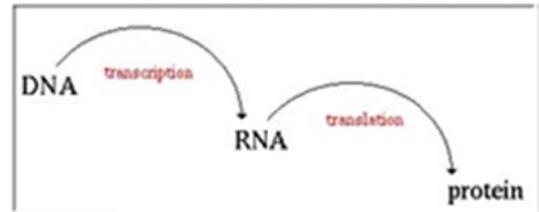
_____.

Transcription

Converting a gene from the DNA blueprint into a complimentary single-stranded RNA sequence

The _____ includes 3 processes:

- _____
- _____
- _____



RNA is very similar to DNA

However, it differs in 3 major ways:

- RNA has a _____.
- RNA has _____ instead of thymine.
- RNA is a _____ structure.

Protein Synthesis uses 3 types of RNA

Three forms of RNA involved in protein synthesis

1. mRNA (_____): _____ and carries these to the ribosome.

2. tRNA (_____): _____ from the cytoplasm to the ribosome.
3. rRNA (_____): composes parts of the ribosome, which is the _____

Transcription Occurs in the Nucleus

Transcription copies DNA to make a _____

This takes place _____

What advantage(s) might this create?

How Transcription Occurs:

1. _____ untwists and unzips a section of the DNA (usually a single gene)
2. RNA polymerase _____ to the exposed bases of one of the DNA strands following _____, except _____ thymine
3. The DNA helix winds again as the gene is transcribed
4. The RNA strand _____ the DNA once the gene is transcribed
5. The mRNA strand, with instructions for building a protein, _____

TRANSCRIPTION EXAMPLE

Transcribe the following DNA Sequence into mRNA

Template DNA: TAC CGG ATG CTA GGA TCA

Transcription is similar to replication

Transcription and replication both involve complex enzymes and complementary base pairing

The two processes have _____.

Replication copies the entire DNA; _____

Replication makes one copy; _____

Result of Transcription

Completed mRNA template leaves the nucleus.