



2.1.3 NUCLEOTIDES AND NUCLEIC ACIDS



2.1.3 NUCLEOTIDES AND NUCLEIC ACIDS: TRANSCRIPTION AND TRANSLATION

Process which copies DNA sections into small mRNA molecules which then goes to the site of protein synthesis

In nucleus

Copy it to mRNA

DNA unzips around the gene

Transcription

DNA helicase

Breaks hydrogen bonds between bases

RNA polymerase

Forms phosphodiester bonds between RNA molecules

OCR (A)

mRNA leaves nucleus via nuclear pore

Travels to ribosomes in cytoplasm

Contains information about which amino acids are needed for the protein

mRNA

Happens after transcription

Translation

In ribosomes

Translating mRNA sequence to an amino acid sequence during protein synthesis

tRNA

Necessary for mRNA translation

tRNA anticodons bind to complementary mRNA codons

Forms protein's primary structure

rRNA

Keeps protein synthesis sequence structurally stable

Catalyses reactions biochemically