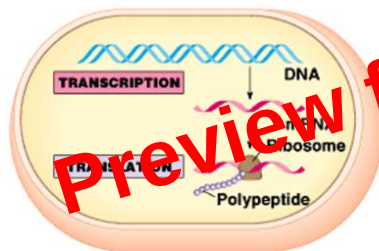
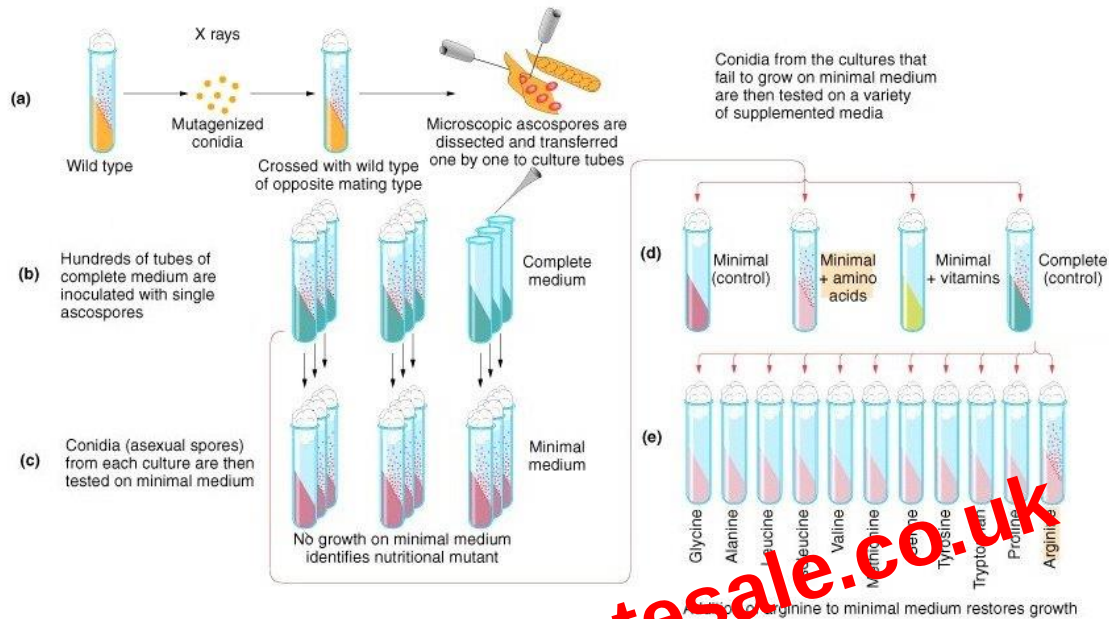


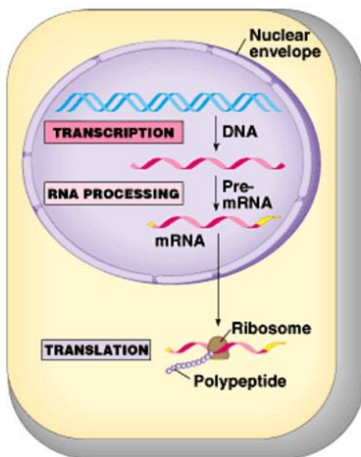
Chapter 14 Gene Expression: From Gene to Protein

☞ **Gene expression:** the process by which DNA directs the synthesis of proteins

14.1 Genes specify proteins via transcription and translation

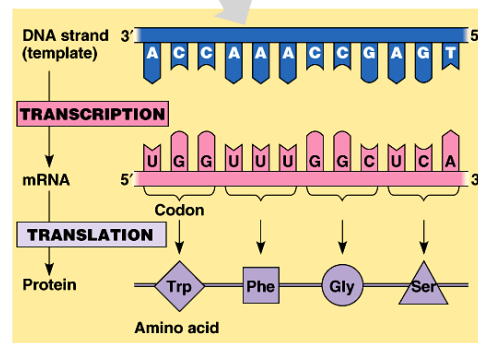


(a) Prokaryotic cell



(b) Eukaryotic cell

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acids into polypeptide chains.

☞ **Primary Transcript:** the initial RNA transcript from any gene
 ☞ **codon:** the genetic instructions for a polypeptide chain are written in the DNA as a series of non-overlapping, three-nucleotide words
 ☞ **template strand:** a strand of DNA that provides the pattern/template for the sequence of nucleotides in RNA transcript.
 ☞ **Reading frame:** the correct groupings

☞ **Transcription:** the synthesis of RNA using information of the DNA
 ☞ **messenger RNA (mRNA):** a type of RNA molecule that carries a genetic message from the DNA to the protein synthesizing machinery of the cell.
 ☞ **Translation:** the synthesis of a polypeptide using the information of DNA
 ☞ **ribosome:** sites of translation - complex molecules that facilitate the orderly linking of amino