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**Higher Human Biology**

**Human Cells: Gene Expression (Key Area 3)**

By the end of this topic I will be able to:

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| 1. State the differences between DNA and RNA  2. State the names and functions of the three types of RNA involved in transcription and translation.  3. Describe the process of transcription and the role of RNA polymerase.  4. State that transcription synthesises a primary mRNA transcript.  5. Describe the process of RNA splicing to produce a mature mRNA transcript.  6. Describe the steps involved in the process of translation for the formation of a polypeptide chain.  7. State the action of start and stop codons.  8. State that amino acids are joined by peptide bonds to form a polypeptide which exits the ribosome.  9. Explain how the process of alternative RNA splicing enables different proteins to be expressed from one gene.  10. State that polypeptide chains fold to form the three-dimensional shape of a protein, held together by hydrogen bonds and other interactions between individual amino acids.  11. State that proteins have a large variety of shapes which determines their functions.  12. State that phenotype is determined by the proteins  produced as a result of gene expression |  |  |
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