

# Biology Honors

DNA and Protein Synthesis Review Questions

What is the monomer of DNA?

Draw it.

Draw and label the structure of DNA

What forms the sides of the DNA?

What forms the rungs of the DNA molecule?

What is the base-pair rule / Chargaff's rule?

Which enzyme is responsible for breaking the Hydrogen bonds during replication?

What is the role of DNA polymerase?

Why is DNA replication considered semi-conservative?

Draw the following: a gene, condensed chromosome, and a genome? Assume we are studying human DNA.



What are introns?

What is RNA and how it is different than DNA?

What are the 3 types of RNA and what does each one do?

Transcribe and Translate the following:

**ATT CGT CAT AGG**

How does a codon differ from an anticodon. Give an example.

What is the start codon?

What is the stop codon?

Draw a diagram of the steps of protein synthesis, use all terms we discussed in class.

What is the difference between a substitution and frameshift mutations. Discuss in detail and include the names of the type of mutations and the outcomes.



Are mutations important? (harmful/helpful)