

RB3 - Nucleic Acids – Biology Revision

What is the biological function of DNA?

What is the biological function of RNA?

What is the biological function of a ribosome?

What are ribosomes made from?

DNA exists as a double helix structure. How does a molecule of RNA exist?

Using your knowledge of base pairing, complete the following:

DNA Strand 1	A	A	G	T	C	C	C
DNA Strand 2							

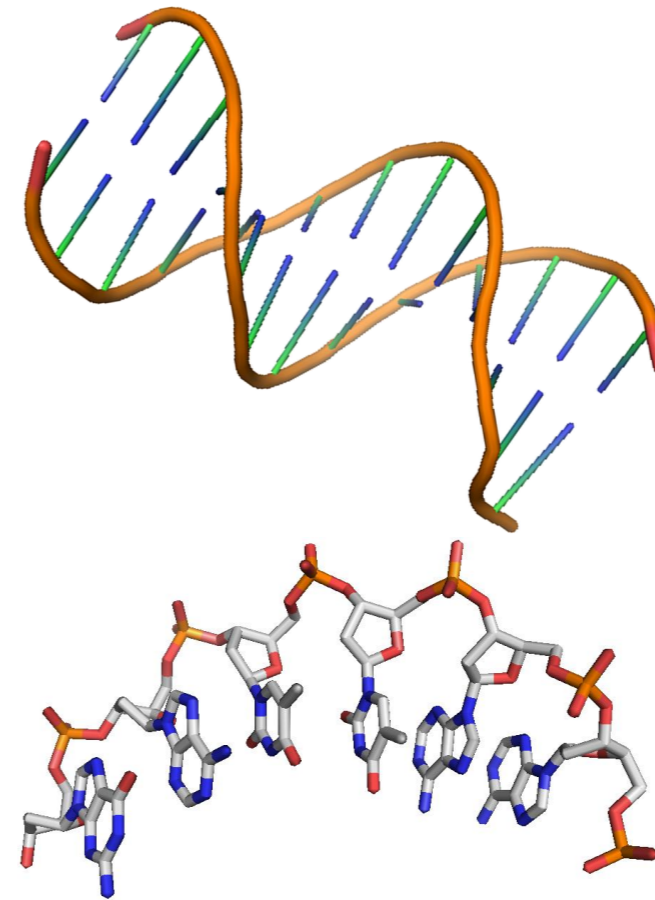
Now consider that DNA Strand 1 is bound to a strand of RNA. Complete the following:

DNA Strand 1	A	A	G	T	C	C	C
RNA Strand 1							

In another DNA strand, the percentage of adenine is known to be 17%. Use your knowledge of base pairing to calculate the frequency of each other base:

Base	%
Adenine	17%
Cytosine	
Guanine	
Thymine	

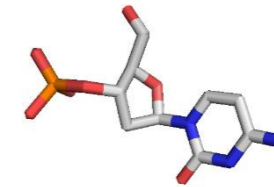
DNA and RNA are both types of nucleic acids. They are also known as polynucleotides. Explain why:



DNA exists as a double helix structure. Explain why the two DNA strands involved are said to be complementary:

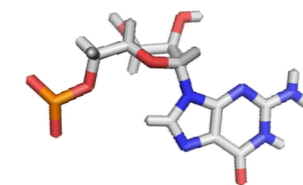
Which type of bonding joins the two DNA strands together? How does this type of bonding arise in DNA?

Label the three components of a DNA nucleotide:



Describe how a single strand of DNA can form from nucleotide units. State the type of bonding involved and explain how these bonds form:

Label the three components of an RNA nucleotide:



How does the set of nitrogenous bases differ between DNA and RNA?

When RNA binds to DNA, which base pairs up with uracil?

