7.1 DNA Structure and Replication

DNA Structure

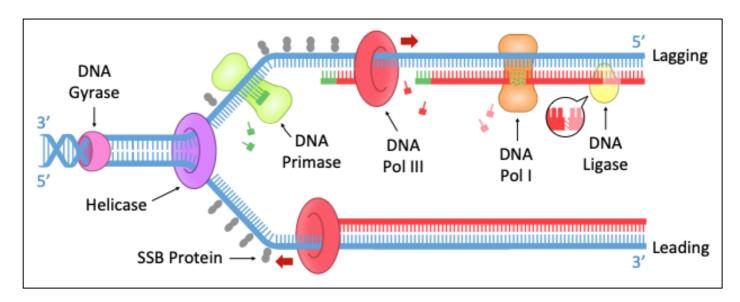
		lkins used X-ray c				
Describe, with t	the aid of the d	liagram, the orga	nisation of DN	A into chromat	in within eukar	yotic cells
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DNA	Nucleosome	Chromatosome	Solenoid	30 nm fibre	Chromatin	Chromosome
Differentiate be	etween euchro	matin and hetero	chromatin			
Outline the stru	ıcture of the nı	ucleosome (and id	dentify its func	tions)		

List five examples of non-coding DNA	
S	
Т	
I	
N	
G	
Explain the role of tandem repeats in DNA profiling	
Use the diagram below to outline the methodology an	nd conclusions of the Hershey-Chase experiment
Experiment 1: Testing Protein with ³⁵ S	Experiment 2: Testing DNA with ³² P
Protein labelled Infection Centrifuge Radioactive supernatant	DNA labelled Infection Centrifuge Radioactive pellet
Conclusion: Proteins <u>not</u> genetic material	Conclusion: DNA is the genetic material

DNA Replication

State	the	direction	of DNA	replication
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State, with the aid of the diagram, the role of the following components of the DNA replication process



Helicase:	
DNA Gyrase:	•••
SSB Proteins:	
DNA Primase:	
DNA Pol III:	
DNA Pol I:	
DNA Ligase:	

Outline the difference between leading and lagging strands as they relate to Okazaki fragments	
Describe the role of deoxynucleoside triphosphates (dNTPs) in the replication process	
	•••
Explain, with the gid of the following diagram, how dideoxymucleotides are used in DNA sequencing	•••
Explain, with the aid of the following diagram, how dideoxynucleotides are used in DNA sequencing	
T C G A C T T C G A 3' PCR T C G A Gel GACTGAAGCT	
	•••