

Chap 16: Molecular Basis of Inheritance (DNA and Replication)

Chap 12 (preview)

What is the difference between chromatin, chromosome, and chromatid?

What is the centromere?

What is the kinetochore?

Chap 16

How did the history of DNA discovery (experiments) help us to understand DNA today?

Of the 3 hypotheses for DNA replication, which one is the most logical? Why?

What are the monomers that make up nucleic acids?

Be able to draw/recognize a nucleic acid monomer (and label the 3 parts)

What is complementary base pairing?

What is the overall purpose of DNA replication?

Be able to explain the roles of the following proteins: helicase, single stranded binding proteins, topoisomerase, polymerases (I, II and III), ligase, primase, telomerase, and nuclease

What is the difference between nucleoside and nucleotide?

Be able to locate the 5' and 3' ends of DNA from a picture

What is a replication fork?

What needs to happen in long strands of DNA for replication to happen quickly?

Compare replication in prokaryotes to eukaryotes.

In what direction MUST DNA polymerase build?

Why does DNA create leading strands and lagging strands?

What are Okazaki fragments?

What is the purpose of telomeres?

What is a nucleoid region?

What is the difference between euchromatin and heterochromatin?

What is the purpose of histone proteins? How is this associated with a nucleosome?