

Exam 3

Where does replication begin? Which direction does it proceed?

In bacteria, where does replication begin?

What is required for DNA synthesis?

Describe chain elongation.

Which form of DNA polymerase is the only one that can exonuclease from 5'-3'?

Describe the holoenzyme.

What are the 7 key issues that need to be resolved for replication to happen?

Describe the process of DNA replication. Use DNAa, helicase, SSBP, and DNA gyrase.

What direction does DNA polymerase synthesis in? This causes what two strands to be made?

What are the fragments related on the lagging strand called? What fixes them/ glues them together?

Describe eukaryotic DNA replication.

Describe the triplet code.

What does it mean when the code is degenerate and unambiguous?

What is the wobble hypothesis?

What is the initiator codon in eukaryotes and the one in bacteria?

What is a nonsense mutation?

What is an open reading frame?

What molecule makes RNA from DNA?

Describe the whole process of transcription.

What are the two types of termination?

Describe some differences in transcription when it comes to eukaryotes.

What does RNAPIII do?

What is the TATA box?

What are enhancers and silencers?

Describe the post-transcriptional modifications to make mRNA functional.

What are introns and exons?

What does translation require?

What two parts make up the ribosome? Which sRNA sequences are found in eukaryotes, and which are in prokaryotes?

What is tRNA? What is the anticodon?

What does tRNA charging mean? What does this?

Describe the process of translation.

What is the shine-Dalgarno sequence? What is this version in eukaryotes?

What are the two types of termination?

What are polysomes?

What is a closed loop translation?

Describe phenylketonuria.

How are peptide bonds formed between proteins?

Describe all 4 levels of protein structure.

List a few posttranslational modifications.

What molecule assist in protein folding? Issues will cause what to be formed?

What are the two types of disease of protein folding?

What is epigenetics? When are we most susceptible?

What are the different types of histone modifications?

Will acetylation enhance or silence genes? What about methylation?

What is developmental programming?

What was the Dutch hunger winter able to tell us about gestation?

What will happen to milk production for generations if there is heat stress?