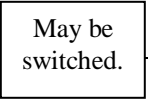


Protein synthesis cut and paste KEY

<u>RNA TRANSCRIPTION</u>		
	<ul style="list-style-type: none"> • A section of DNA unwinds (gene) between base pairs at hydrogen bonds. 	
	<ul style="list-style-type: none"> • Complementary nucleotides collide with exposed bases along one open section of DNA 	
	<ul style="list-style-type: none"> • Exposed bases matched with complements (thymine is replaced by uracil). 	
	<ul style="list-style-type: none"> • RNA-polymerase attaches to DNA 	
	<ul style="list-style-type: none"> • Sugar-phosphate bonds made between nucleotides by RNA polymerase 	
	<ul style="list-style-type: none"> • Now mRNA has a sequence of triplet codons complementary to the DNA triplet code. 	
	<ul style="list-style-type: none"> • mRNA released from nucleus through the nuclear pores 	
<u>RNA TRANSLATION</u>		
Initiation	<ul style="list-style-type: none"> • The 2 ribosomal subunits bind to mRNA forming a complete ribosome 	
	<ul style="list-style-type: none"> • Each tRNA picks up an amino acid. 	
	<ul style="list-style-type: none"> • Linear sequence of codons determines the order in which tRNA molecules arrive. 	
	<ul style="list-style-type: none"> • Initiation always begins with the codon that stands for the amino acid methionine. 	
Elongation	<ul style="list-style-type: none"> • The tRNA-amino acid complexes come to the ribosomes where each anti-codon pairs with a mRNA codon. Two such tRNA-amino acid complexes can be at a ribosome at a time. 	
	<ul style="list-style-type: none"> • The amino acid is peptide-bonded to the growing polypeptide chain. 	
	<ul style="list-style-type: none"> • Ribosome moves along the mRNA to the right, making room for the next tRNA-amino acid. 	
	<ul style="list-style-type: none"> • As tRNA leaves, it passes its peptide chain to the tRNA-amino acid still at the ribosome. 	
Termination	<ul style="list-style-type: none"> • The above process continues until a “stop” codon on mRNA is reached. 	
	<ul style="list-style-type: none"> • Completed polypeptide released by ribosome which dissociates and falls off the mRNA molecule. 	
	<ul style="list-style-type: none"> • Secondary and tertiary structure of the protein forms after termination. 	