

mRNA Codon/Amino Acid Chart

First Base	Second Base			Third Base
	U	C	A	
U	UUU } Phenylalanine (Phe) UUC }	UCU } Serine (Ser) UCC } UCA } UCG }	UAU } Tyrosine (Tyr) UAC } UAA } Stop UAG }	UGU } Cysteine (Cys) UGC } UGA } Stop UGG } Tryptophan (Trp)
	CUU } Leucine (Leu) CUC } CUA } CUG }	CCU } Proline (Pro) CCC } CCA } CCG }	CAU } Histidine (His) CAC } CAA } Glutamine (Glu) CAG }	CGU } Arginine (Arg) CGC } CGA } CGG }
	AUU } Isoleucine (Ile) AUC } AUA } AUG } Start Methionine (Met)	ACU } Threonine (Thr) ACC } ACA } ACG }	AAU } Asparagine (Asn) AAC } AAA } Lysine (Lys) AAG }	AGU } Serine (Ser) AGC } AGA } Arginine (Arg) AGG }
	GUU } Valine (Val) GUC } GUA } GUG }	GCU } Alanine (Ala) GCC } GCA } GCG }	GAU } Aspartic Acid (Asp) GAC } GAA } Glutamic Acid (Glu) GAG }	GGU } Glycine (Gly) GGC } GGA } GGG }

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Teacher Directions

Explain to students that they are to:

- Transcribe the DNA into mRNA codons by writing the complementary bases.
- Find a codon's first base in the first column of the chart; stay in this row.
- Find the second base in the middle of the chart, stay in this box.
- Locate the third base in the far right column, this is the amino acid that matches the mRNA codon.
- Warn students against using the tRNA anticodon when using the chart.
- Remind students of the different purposes of the mRNA and tRNA. It is the messenger RNA codon that carries the message specifying a certain amino acid; it is the transfer RNA that transfers that amino acid to the growing protein chain.
- The tRNA anticodon is a sequence of three nucleotides that are the complement of the three nucleotides in the mRNA codon. The function of the anticodon is to help the tRNA find the appropriate amino acid that the mRNA codon specified.

Answer Key

Not applicable.