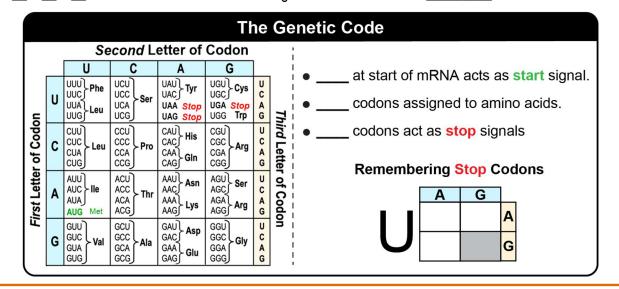
## **CONCEPT:** THE GENETIC CODE

- Genetic Code is the assignment of each \_\_\_\_\_ to one of the \_\_\_ amino acids.
  - □ **Recall:** a codon is a nucleotide triplet that codes for an amino acid or acts as a or signal.
  - □ \_\_ × \_\_ × \_\_ = 64 total codons □ A single amino acid can have \_\_\_\_\_ codons.



**EXAMPLE:** Determine the polypeptide sequence from the mRNA sequence given below:

5' GGCCAUACCAUGUAU 3'

**STEP 1:** Break the given mRNA sequence in \_\_\_\_\_ (nucleotide triplets).

 $5' \_\_-\_-\_-3'$ 

**STEP 2:** Identify the amino acid for each codon and write the peptide sequence.

36	econa L	etter of	Codon
U	С	Α	G
	_		

		U	С	Α	G		
First Letter of Codon	U	UUU Phe UUC Leu	UCU UCC UCA UCG	UAU Tyr UAC Stop UAG Stop	UGU Cys UGC Stop UGA Stop	∪ C ≪ G	Third Letter of Codon
	С	CUU CUC CUA CUG	CCU CCC CCA CCG	CAU His CAC GIn	CGU CGC CGA CGG	DCAG	
	A	AUU AUC AUA AUG Met	ACU ACC ACA ACG	AAU AAC AAA AAA Lys	AGU Ser AGC Arg	UCAG	r of Code
	G	GUU GUC GUA GUG	GCU GCC GCA GCG	GAU GAC GAA GAG GAG	GGU GGC GGA GGG	UCAG	š

**PRACTICE**: Determine the number of bases in the information strand for the gene that codes for the peptide below:

- a) 6
- b) 12
- c) 18
- d) 3