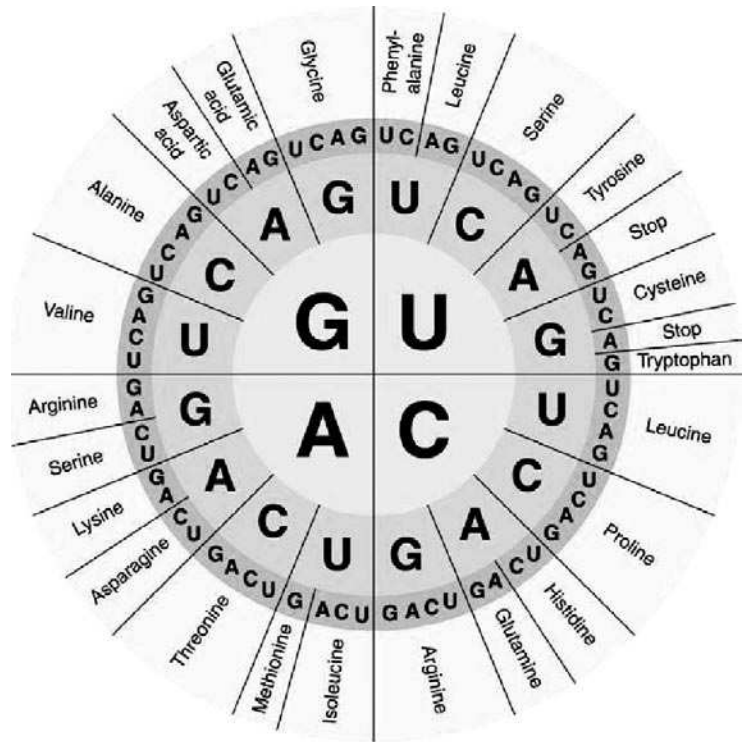


# Worksheet – Determination of Protein Amino Acids from M-RNA's Codon chart.

Name \_\_\_\_\_  
Date \_\_\_\_\_ Per \_\_\_\_\_

## Part 1 “Amino Acid / codon Wheel”

**Instructions:** The “Wheel” at the right shows you how to determine which amino acid goes with which m-RNA codon sequence. To decode a codon, start at the middle of the circle and move outward.



- Identify the amino acids what will be produced from the following m-RNAs codon:
  - AAC \_\_\_\_\_
  - UCU \_\_\_\_\_
  - GAU \_\_\_\_\_
  - CCC \_\_\_\_\_
- What would the codon sequence (s) be for:
 

Leucine? \_\_\_\_\_

Valine? \_\_\_\_\_
- What are the m-RNA's stop codons: \_\_\_\_\_
- What amino acid sequence would be made from the mRNA sequence CGCUAUAGC? \_\_\_\_\_

## Part 2 “Amino Acid / codon Chart”

**Instructions:** The “Chart” at the right shows you how to determine which amino acid goes with which m-RNA codon sequence. To decode a codon, start with the **First Base**, then the **Second Base**, and finally the **Third Base**.

		Second Base				
		U	C	A	G	
First Base	U	Phe Phe Leu Leu	Ser Ser Ser Ser	Tyr Tyr Stop Stop	Cys Cys Stop Trp	U C A G
	C	Leu Leu Leu Leu	Pro Pro Pro Pro	His His Gln Gln	Arg Arg Arg Arg	U C A G
	A	Ile Ile Ile Met	Thr Thr Thr Thr	Asn Asn Lys Lys	Ser Ser Arg Arg	U C A G
	G	Val Val Val Val	Ala Ala Ala Ala	Asp Asp Glu Glu	Gly Gly Gly Gly	U C A G
						Third Base

- Identify the amino acids (you can get the full name from the wheel) what will be produced from the following m RNAs codon:
  - GUA \_\_\_\_\_
  - UUU \_\_\_\_\_
  - CAC \_\_\_\_\_
  - UAA \_\_\_\_\_

2. Suppose the DNA sequence GCTATATCG was changed to GCGATATCG. How would the products of transcription and translation be affected?

	mRNA sequence	→	Amino acid sequence
GCTATATCG	→ _____	→	_____
GCGATATCG	→ _____	→	_____