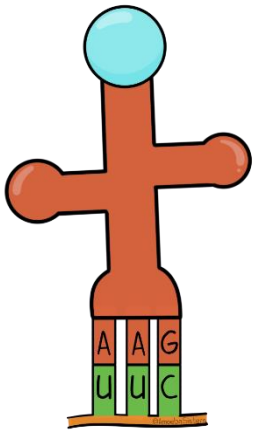
Amoeba Sisters | Video Recap

NAME: _____

Amoeba Sisters Video Companion for *How to Read a Codon Chart*

First Base	Second Base: U	Second Base: C	Second Base: A	Second Base: G	Third Base
U	Phenylalanine	Serine	Tyrosine	Cysteine	U
	Phenylalanine	Serine	Tyrosine	Cysteine	C
	Leucine	Serine	STOP	STOP	A
	Leucine	Serine	STOP	Tryptophan	G
C	Leucine	Proline	Histidine	Arginine	U
	Leucine	Proline	Histidine	Arginine	C
	Leucine	Proline	Glutamine	Arginine	A
	Leucine	Proline	Glutamine	Arginine	G
A	Isoleucine	Threonine	Asparagine	Serine	U
	Isoleucine	Threonine	Asparagine	Serine	C
	Isoleucine	Threonine	Lysine	Arginine	A
	Methionine	Threonine	Lysine	Arginine	G
G	Valine	Alanine	Aspartic Acid	Glycine	U
	Valine	Alanine	Aspartic Acid	Glycine	C
	Valine	Alanine	Glutamic Acid	Glycine	A
	Valine	Alanine	Glutamic Acid	Glycine	G

1. Please *label* the following five words on the image below: **tRNA**, **mRNA**, **codon**, **amino acid**, and **anticodon.**



2. When reading a codon chart, *unless otherwise specified*, you generally use the three bases that are part of the:
CIRCLE ONE: tRNA anticodon mRNA codon DNA codon DNA anticodon

3. The codon chart demonstrates that more than one codon can potentially code for the same amino acid.
CIRCLE ONE: TRUE FALSE

4. The information in this rectangular codon chart could be represented in a different way (ex: circular codon chart).
CIRCLE ONE: TRUE FALSE

5. How many different codon *combinations* are shown on this codon chart? _____

6. How many different *types* of amino acids are shown on this codon chart? _____

Codon Example 1 from Video	**Codon Example 2 from Video** *Try working through this before checking your answers in the video!*	**Codon Example 3 from Video** *Try working through this before checking your answers in the video!*
mRNA Codon: AUG	**mRNA Codon:** CCA	**mRNA Codon:** GUC
tRNA Anticodon: UAC	**tRNA Anticodon:** 7._____	**tRNA Anticodon:** 9._____
Amino Acid: methionine	**Amino Acid:** 8._____	**Amino Acid:** 10._____

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	Isoleucine	Threonine	Lysine	Arginine	A
	Methionine	Threonine	Lysine	Arginine	G
G	Valine	Alanine	Aspartic Acid	Glycine	U
	Valine	Alanine	Aspartic Acid	Glycine	C
	Valine	Alanine	Glutamic Acid	Glycine	A
	Valine	Alanine	Glutamic Acid	Glycine	G

11. The video gave an example of identifying codons for an amino acid. Which six **mRNA codons** code for **leucine**?

_____ _____ _____ _____ _____ _____

12. What would be the six **tRNA anticodons** for the above mRNA codons?

_____ _____ _____ _____ _____ _____

13. What would be the **DNA** base triplets on the DNA template strand that complement the mRNA? One example has been filled in for you!

___AAT___ _____ _____ _____ _____ _____

TRUE or FALSE?

14. _____Changing one base letter on a **mRNA codon** will always change the amino acid it codes for.

15. Why or why not? _____

_____

TRUE or FALSE?

16. _____The mRNA codon UGG is the only codon that codes for the amino acid tryptophan.

TRUE or FALSE?

17. _____ The mRNA codon UCU and AGU code for the same amino acid.

TRUE or FALSE?

18. _____The mRNA codons GCU and GCC would share the *same* **tRNA anticodon**.

19. Why or why not? _____

_____

20. **Stop codons** can signal the end of a polypeptide. What are the three stop codons?

_____ _____ _____

21. **AUG** is generally a **start codon**. What is the **amino acid** that AUG codes for?

_____