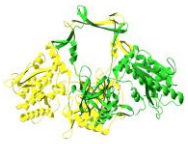
Name: _____



Taco Protein Synthesis Activity

HS-LS1-1

(____ points)

I <u>can</u> statements for the HS-LS1-1 Unit:

- I can **model** the structure of DNA and **describe** the importance of it within our cells.
- I can **construct an explanation** of how genes code for proteins.

Directions: In this activity you will use your knowledge of protein synthesis to decode a DNA strand to find out what type of taco you will build.

1. Complete the chart below using your codon wheel and what you have learned about protein synthesis.

DNA	RNA	Amino Acid
CCC		Glycine
CGT	GCA	
AAA	UUU	
TTT		
CCA		Glycine
TAA		Isoleucine
		Tryptophan
		Methionine

2. What would make up your DREAM taco?

3. There are several ways to produce the amino acids that build a protein. What does this mean?

Name: _____

4. Using the DNA strand you received from your teacher, decode the ingredients for a taco recipe. Use the chart below to guide you in the process.

DNA	mRNA	Amino Acid	tRNA	Taco Ingredient

5. Now that you have completed your table, draw a picture of your taco that was created on a separate sheet of paper (use color). Attach this piece of paper to this lab.

Make sure you label each part of your taco. For example, if you draw a hard shell it would be labeled AUG (see key).

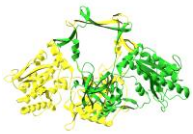
Name: _____

6. Build your own taco recipe (your preferred taco) using the table below.

Taco Ingredient	tRNA	Amino Acid	mRNA	DNA

These ingredients are mRNA:
UAC- Softshell
AUG-Hardshell
CAA-Chicken
UGG-Beef
CAG-Cheese
AGA-Jalapenos
CCC-Lettuce
UAU-Sour Cream
CGU-Olives
ACC-Tomatoes
CUA-Extra Cheese

Name: _____



Taco Protein Synthesis Activity

HS-LS1-1

(____ points)

KEY

I <u>can</u> statements for the HS-LS1-1 Unit:

- I can **model** the structure of DNA and **describe** the importance of it within our cells.
- I can **construct an explanation** of how genes code for proteins.

Directions: In this activity you will use your knowledge of protein synthesis to decode a DNA strand to find out what type of taco you will build.

Teacher Hint: students will need a codon wheel for this activity

1.Complete the chart below using your codon wheel and what you have learned about protein synthesis.

DNA	**RNA**	**Amino Acid**
CCC	GGG	Glycine
CGT	GCA	Alanine
AAA	UUU	Phenylalanine
TTT	AAA	Lysine
CCA	GGU	Glycine
TAA	AUU	Isoleucine
ACC	UGG	Tryptophan
TAC	AUG	Methionine

2. What would your DREAM taco be made of?

Answers will vary.

Name: _____

3. There are several ways to produce the amino acids that build a protein. What does this mean?

Some mRNA codons code for more than one amino acid. For example, GUU, GUA, GUC, and GUG all code for Valine.

4. Using the DNA strand you received from your teacher, decode the ingredients for a taco recipe. Use the chart below to guide you in the process.
Answers will vary

5. Now that you have completed your table, draw a picture of your taco that was created on a separate sheet of paper (use color). Attach this piece of paper to this lab.

> *Make sure you label each part of your taco. For example, if you draw a hard shell it would be labeled AUG (see key).*

6. Build your own taco recipe (your preferred taco) using the table below. Answers will vary

Name: _____

DNA sequences to give students:

ATG GTT GTC TCT GGG ATA TGG GAT GCA

TAC GTT GTC TCT GGG ATA TGG GAT GCA

ATG ACC GTC TCT GGG ATA TGG GAT GCA

TAC ACC GTC TCT GGG ATA TGG GAT GAT

TAC GTT ACC GTC TCT GGG TGG GAT GAT