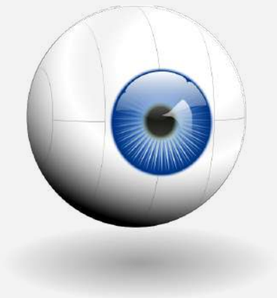
Macromolecules Stations

Self Directed Activity

Directions - Proceed through each of the following stations. Following the directions as written. If a question arises, talk amongst your group members first, then if a consensus is not reached, please seek assistance from your instructor

Station 1

Watch It

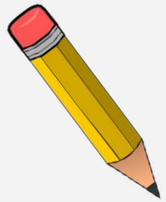


Station 2

Video It

Station 3

Write It



Station 4

Examine It

Macromolecules Stations

Self Directed Activity

Directions - Proceed through each of the following stations. Following the directions as written. If a question arises, talk amongst your group members first, then if a consensus is not reached, please seek assistance from your instructor

Station 5

Answer It

Station 6

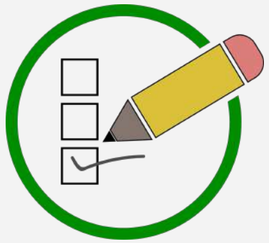
Perform It

Station 7

Read It

Station 8

Evaluate it



Watch It – Station 1

Compare and Contrast Monomers and Polymers

Question 1

What are the 4 macromolecules?

Question 2

What are their functions?

Question 3

Directions

Watch the following video

Answer t left from
the vi vided

Stations 1-4

Station 1 – Continued

What are the monomers and polymers of Carbohydrates?

Question 4

What are the components of Lipids? Name the 3 different types.

Question 5

Proteins are made of subunits called?
How are amino acids bonded together?

Question 6

Directions

Watch the following video

Answer t left from
the vi vided

Stations 1-4

Station 1 – Continued

What are the two types of Nucleic Acids?

Question 7

Draw and label the 3 parts of the monomer of a nucleic acid. Provide their functions.

Question 8

Compare and Contrast DNA & RNA structure and function.

Question 9

Directions

Watch the following video

Answer t
the vi

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Stations 1-4

Station 2 – Video It

Directions

Make a video of about 3 minutes. Your video should include the following information, using the sentence stems right.

Insert (copy & paste) your video link into your answer doc

Some Video creation suggestions:

- Loom
- Screencast-o-matic
- Screencastify
- Animoto

"In order to maintain balance or homeostasis, a balanced diet must consist of...(think 3 of the 4 macromolecules)"

"The molecule that provides the most energy is..."
"The molecule that we should eat in moderation is...due to the fact that...."

"The molecule that helps build muscle and provides for numerous cellular activity is..."
"The major components of all of the molecules are the elements..."

Stations 1-4

Write It

In a quickwrite (3-5 Sentences) - Using the image below...

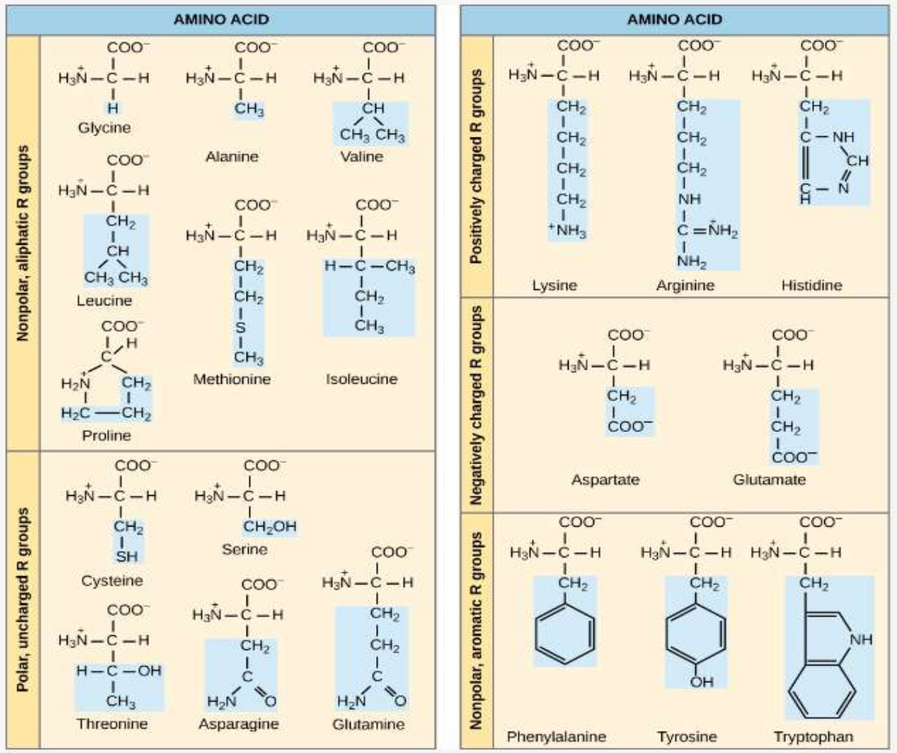

Figure 3.23 There are 20 common amino acids commonly found in proteins, each with a different R group (variant group) that determines its chemical nature.

Which categories of amino acid would you expect to find on the surface of a soluble protein, and which would you expect to find in the interior? What distribution of amino acids would you expect to find in a protein embedded in a lipid bilayer?

Stations 1-4

Examine It

Which one is healthier? Why

Nutritional Label 1

Nutrition Facts

21 servings per container

Serving size 3 oz (200g)

Amount Per Serving

Calories 230

	% Daily Value*
Total Fat 9g	12%
Saturated Fat 3g	15%
Trans Fat 1g	
Cholesterol 200mg	67%
Sodium 780mg	34%
Total Carbohydrate 55g	20%
Dietary Fiber 0g	0%
Total Sugars 54g	
Includes 0g Added Sugars	0%
Protein 0g	0%

Not a significant source of vitamin D, calcium, iron, and potassium

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Nutritional Label 2

Nutrition Facts

21 servings per container

Serving size 3 oz (200g)

Amount Per Serving

Calories 230

	% Daily Value*
Total Fat 3g	4%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 100mg	33%
Sodium 600mg	26%
Total Carbohydrate 28g	10%
Dietary Fiber 0g	0%
Total Sugars 20g	
Includes 0g Added Sugars	0%
Protein 0g	0%

Not a significant source of vitamin D, calcium, iron, and potassium

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Stations 1-4

Answer It

1. *Describe the similarities and differences between glycogen and starch.*
2. *Why is it impossible for humans to digest food that contains cellulose?*
3. *Explain at least three functions that lipids serve in plants and/or animals.*
4. *Why have trans fats been banned from some restaurants? How are they created?*
5. *Why are fatty acids better than glycogen for storing large amounts of chemical energy?*
6. *Part of cortisol's role in the body involves passing through the plasma membrane to initiate signaling inside a cell. Describe how the structures of cortisol and the plasma membrane allow this to occur.*
7. *Describe the differences in the four protein structures.*
8. *What are the structural differences between RNA and DNA?*
9. *What are the four types of RNA and how do they function?*

Perform It – Station 6

What substances tested positive for Glucose, lipids, or proteins?

Question 1

What are the reagents for each Macromolecule? What indicates a positive test?

Question 2

What would you use to test: Table Sugar? Olive Oil? Potatoes juice? Onion Juice? Ground turkey meat?

Question 3

Directions

Watch the following lab simulation

Answer the v ft from ded

Stations 5-8

Station 7 – Read It

Main Idea

Type something here.

summary

Type something here.

Article

Inferences

Type something here.

How is it connected to learning

Type something here.

Stations 5-8

Station 8 – Evaluate It

what do I know?

List at least 5 items:

what do I wonder?

List at least 4 items:

what have I learned?

List at least 5 Items:

Stations 5-8