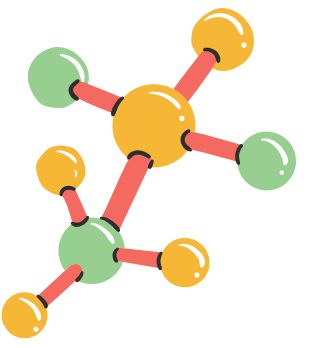


# MACROMOLECULE WORKSHEETS



Name :

Date :

## Part A. Classify each as a carbohydrate, protein, or lipid

- |          |             |           |                   |
|----------|-------------|-----------|-------------------|
| 1. _____ | Starch      | 6. _____  | Saturated fat     |
| 2. _____ | Cholesterol | 7. _____  | Polypeptide chain |
| 3. _____ | Steroid     | 8. _____  | Polysaccharide    |
| 4. _____ | Glycogen    | 9. _____  | Phospholipid      |
| 5. _____ | Enzyme      | 10. _____ | Glycerol          |

## Part B. Identify the specific molecule (use the above terms) from each description. Some terms may be used more than once.

11. \_\_\_\_\_ Provides long-term energy storage for animals
12. \_\_\_\_\_ Provides immediate energy
13. \_\_\_\_\_ Monomer of proteins
14. \_\_\_\_\_ Provides long-term energy storage for plants
15. \_\_\_\_\_ Steroid that makes up part of the cell membranes

## Part C. Which specific molecule (saturated fat, unsaturated fat, protein, glucose, starch, cellulose) is each food mostly made of?

- |           |           |           |              |
|-----------|-----------|-----------|--------------|
| 16. _____ | Spinach   | 19. _____ | Orange juice |
| 17. _____ | Egg white | 20. _____ | Sesame Oil   |
| 18. _____ | Noodles   |           |              |

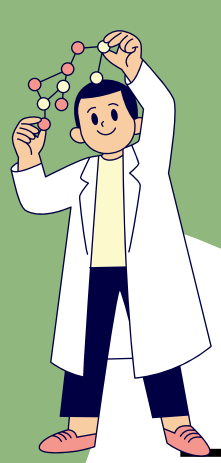
## Part D. Which food molecule (monosaccharide, polysaccharide, lipid, protein) would you eat if...

21. ...you needed a quick boost of energy?
22. ...you wanted to grow healthy hair?
23. ...you had a race tomorrow afternoon?
24. ...you wanted to get bigger muscles?
25. ...your next meal will be in a week?

## Part E. Short Answer questions

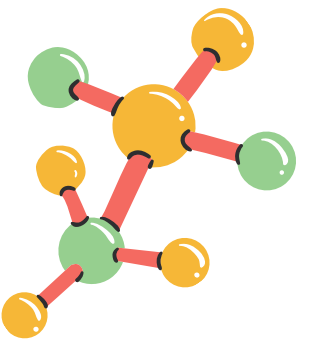
26. What is the relationship between glucose, fructose, and galactose?
27. What are the structural differences between a saturated and an unsaturated fat?
28. Explain how polymers are related to monomers.





## KEY ANSWER

# MACROMOLECULE WORKSHEETS



### Part A. Classify each as a carbohydrate, protein, or lipid

- |                        |             |                        |                   |
|------------------------|-------------|------------------------|-------------------|
| 1. <u>carbohydrate</u> | Starch      | 6. <u>protein</u>      | Saturated fat     |
| 2. <u>lipid</u>        | Cholesterol | 7. <u>carbohydrate</u> | Polypeptide chain |
| 3. <u>carbohydrate</u> | Steroid     | 8. <u>carbohydrate</u> | Polysaccharide    |
| 4. <u>protein</u>      | Glycogen    | 9. <u>lipid</u>        | Phospholipid      |
| 5. <u>lipid</u>        | Enzyme      | 10. <u>lipid</u>       | Glycerol          |

### Part B. Identify the specific molecule (use the above terms) from each description. Some terms may be used more than once.

- |                         |  |
|-------------------------|--|
| 11. <u>lipids</u>       | Provides long-term energy storage for animals    |
| 12. <u>carbohydrate</u> | Provides immediate energy                        |
| 13. <u>protein</u>      | Monomer of proteins                              |
| 14. <u>carbohydrate</u> | Provides long-term energy storage for plants     |
| 15. <u>lipids</u>       | Steroid that makes up part of the cell membranes |

### Part C. Which specific molecule (saturated fat, unsaturated fat, protein, glucose, starch, cellulose) is each food mostly made of?

- |                      |           |                            |              |
|----------------------|-----------|----------------------------|--------------|
| 16. <u>cellulose</u> | Spinach   | 19. <u>glucose</u>         | Orange juice |
| 17. <u>protein</u>   | Egg white | 20. <u>unsaturated fat</u> | Sesame Oil   |
| 18. <u>starch</u>    | Noodles   |                            |              |

### Part D. Which food molecule (monosaccharide, polysaccharide, lipid, protein) would you eat if...

21. ...you needed a quick boost of energy? **monosaccharide**
22. ...you wanted to grow healthy hair? **protein**
23. ...you had a race tomorrow afternoon? **polysaccharide**
24. ...you wanted to get bigger muscles? **protein**
25. ...your next meal will be in a week? **lipid**

### Part E. Short Answer questions

26. What is the relationship between glucose, fructose, and galactose?  
**They are isomers of one another - They have the same chemical formula but differ in how those elements are bonded to each other within the molecule.**
27. What are the structural differences between a saturated and an unsaturated fat?  
**Unsaturated fats have a double bond between at least two carbons in the fatty acid tail and those same carbons have only a single hydrogen bonded to each.**
28. Explain how polymers are related to monomers.  
**Polymers are comprised of monomers.**

