**Macromolecules Review Worksheet Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Part A.** *Classify each as a carbohydrate, protein, lipid or nucleic acid(only used once).*

|  |  |  |  |
| --- | --- | --- | --- |
| 1.  | Starch | 9.  | Polysaccharide |
| 2.  | Cholesterol | 10.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Phospholipid |
| 3.  | Steroid | 11.  | DNA & RNA |
| 4.  | Glycogen | 12.  | Monosaccharide |
| 5.  | enzyme | 13.  | Cellulose |
| 6.  | saturated fat | 14.  | amino acid |
| 7.  | polypeptide chain | 15.  | unsaturated fatty acid |
| 8.  | Glucose |  |  |

**Part B.** *Identify the specific molecule (use the above terms) for each description. Some terms may be used more than once.* *Nucleic acid is used only once.*



16. provides long-term energy storage for animals

17. provides immediate energy

18. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_sex hormones

19. stores hereditary information

20. animal and plant structures

21. forms the cell membrane of all cells

22. speeds up chemical reactions by lowering activation energy

23. one sugar

24. monomer of proteins

25. provides long-term energy storage for plants

26. steroid that makes up part of the cell membranes

27. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ soluble only in hydrophobic solvents

28. provides short-term energy storage for animals

29. many sugars

30. forms the cell wall of plant cells

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



|  |  |  |  |
| --- | --- | --- | --- |
| 31.  | butter | 39.  | celery |
| 32.  | spinach | 40.  | cream |
| 33.  | beef jerky | 41.  | cranberries |
| 34.  | bacon | 42.  | egg white |
| 35.  | noodles | 43.  | table sugar |
| 36.  | orange juice | 44.  | popcorn |
| 37.  | cheese | 45.  | lobster |
| 38.  | wheat | 46.  | sesame oil |



**Part D.** *State whether each is found in animals, plants or both.*

|  |  |  |  |
| --- | --- | --- | --- |
| 47.  | saturated fathttp://www.aperfectworld.org/clipart/plants/potted_plant.png | 53.  | glucose |
| 48.  | protein | 54.  | enzyme |
| 49.  | steroid | 55.  | polysaccharide |
| 50.  | amino acid | 56.  | glycogen |
| 51.  | monosaccharide | 57.  | starch |
| 52.  | cellulose | 58.  | phospholipid |
|  |  |  |  |

**Part E.** *Which food molecule (monosaccharide, polysaccharide, lipid, protein) would you eat if…*

68. …you needed a quick boost of energy?

69. …you wanted to grow strong nails?

70. …you haven’t eaten in days?

71. …you wanted to grow healthy hair?

72. …you had a race tomorrow afternoon?

73. …you were getting ready for hibernation?

74. …you wanted to get bigger muscles?

75. …your next meal will be in a week?



**Short Answer questions**

1. What are the structural differences between a saturated and an unsaturated fat?

2. Explain how polymers are related to monomers.

3. What elements make up a carbohydrate? What ratio are these always found in?