

Macromolecules Worksheet

Name Ashever Rey Per. _____

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

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|------------------------|------------------------|-------------------------|----------------|
| 1. <u>Carb</u> | starch | 10. <u>Carb.</u> | polysaccharide |
| 2. <u>Lipid</u> | cholesterol | 11. <u>Lipid</u> | phospholipid |
| 3. <u>Lipid</u> | steroid | 12. <u>Lipid</u> | glycerol |
| 4. <u>Carb.</u> | glycogen | 13. <u>Carb.</u> | monosaccharide |
| 5. <u>Protein</u> | nucleotide | 14. <u>Carb.</u> | cellulose |
| 6. <u>Nucleic Acid</u> | RNA | 15. <u>Protein</u> | amino acid |
| 7. <u>Protein</u> | polypeptide chain | 16. <u>Protein</u> | enzyme |
| 8. <u>Carb.</u> | glucose | 17. <u>Lipid</u> | saturated fat |
| 9. <u>Lipid</u> | unsaturated fatty acid | 18. <u>Nucleic Acid</u> | DNA |

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

17. Lipids provides long-term energy storage for animals
18. Protein - Amino Acids instructions for building proteins
19. Carb. - Sugar provides immediate energy
20. Lipid - Steroid sex hormones
21. Carb - Starch/Sugar provides short-term energy storage for plants
22. Protein - Amino Acids animal and plant structures
23. Lipid - Phospholipid forms the cell membrane of all cells
24. Protein - Catalyst speeds up chemical reactions by lowering activation energy
25. Carb - monosaccharide one sugar
26. Carb - glucose cells convert this into ATP
27. Protein - Amino Acids monomer of proteins
28. Carb. - Starch/Sugar provides long-term energy storage for plants
29. Nucleic Acids - DNA/RNA genetic material
30. Lipid - cholesterol steroid that makes up part of the cell membranes
31. Carb. - Glycerol 3-carbon "backbone" of a fat
32. Carb. - provides short-term energy storage for animals
33. Carb - Polysaccharide many sugars
34. NA. - Nucleotides monomer of nucleic acids
35. Carb. - cellulose 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?

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|--------------------------------|--------------|----------------------------|-------------|
| 36. <u>Starch</u> | almond | 44. <u>cellulose</u> | celery |
| 37. <u>Cellulose</u> | spinach | 45. <u>Starch</u> | soy beans |
| 38. <u>Protein</u> | beef jerky | 46. <u>Glucose</u> | cranberries |
| 39. <u>Protein</u> | bacon | 47. <u>Protein</u> | egg white |
| 40. <u>Starch</u> | noodles | 48. <u>Glucose</u> | table sugar |
| 41. <u>Glucose</u> | orange juice | 49. <u>Starch</u> | popcorn |
| 42. <u>Protein / Saturated</u> | cheese | 50. <u>Protein</u> | lobster |
| 43. <u>starch</u> | wheat | 51. <u>unsaturated fat</u> | sesame oil |

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

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|--------------------|----------------|--------------------|----------------|
| 52. <u>Animals</u> | saturated fat | 61. <u>Both</u> | glucose |
| 53. <u>Both</u> | protein | 62. <u>Both</u> | RNA |
| 54. <u>Both</u> | steroid | 63. <u>Both</u> | polysaccharide |
| 55. <u>Both</u> | amino acid | 64. <u>Animals</u> | glycogen |
| 56. <u>Both</u> | DNA | 65. <u>Plants</u> | starch |
| 57. <u>Plants</u> | cellulose | 66. <u>Both</u> | phospholipid |
| 58. <u>Both</u> | monosaccharide | 67. <u>Both</u> | enzyme |

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

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| 68. ...you needed a quick boost of energy? | <u>monosaccharide</u> |
| 69. ...you wanted to grow strong nails? | <u>protein</u> |
| 70. ...you haven't eaten in days? | <u>Protein</u> |
| 71. ...you wanted to grow healthy hair? | <u>Protein</u> |
| 72. ...you had a race tomorrow afternoon? | <u>Polysaccharide</u> |
| 73. ...you were getting ready for hibernation? | <u>Lipid</u> |
| 74. ...you wanted to get bigger muscles? | <u>Protein</u> |
| 75. ...your next meal will be in a week? | <u>Lipid</u> |