

GLUCOSE

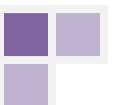
1. What is gluconeogenesis?
2. What is glycolysis?
3. What is glycogenesis?
4. What is glycogenolysis?
5. What is glucose stored as and where is glucose stored and how much in each?
6. Plasma glucose levels control the release of _____ & _____.
7. Where is glucagon produced and what is its function?
8. Where is insulin produced and what is its purpose?
9. Insulin is biphasic, what does this mean?
10. How long after ingestion may freshly formed insulin be released?
11. What is the phase 1 insulin release?
12. What is the phase 2 insulin release?
13. What is insulin's effect on lipids?
14. What helps to maintain the normal blood glucose in between meals?
15. What does glucagon inhibit?
16. What does glucagon stimulate?
17. Glucagon may be used to treat severe _____.
18. What does epinephrine stimulate muscles to create?
19. Although Epinephrine uses _____ than glucagon, both stimulate gluconeogenesis.
20. Who is the insulin antagonist? What does it specifically do?
21. What is the most prevalent form of diabetes?
22. What is IDDM due to?
23. What is NIDDM due to?
24. How may IDDM be managed? What is the best treatment for both types?
25. What causes increased rigidity in blood vessels? What vitamin prevents this from occurring?
26. When does glucose reduce to sorbitol?
27. What does sorbitol effect and give an example of each.
28. Aldose reductase's (sorbitol) action may be inhibited by drugs, what vitamin can reduce sorbitol?
29. What causes ketoacidosis?
30. How may ketoacidosis be treated?
31. What may occur if ketoacidosis continues?
32. What is ketogenesis? What causes it?
33. Why does ketoacidosis occur in alcoholics?
34. The Atkins diet leads to _____.
35. what occurs during stress induced insulin resistance?



36. What is the total effect of stress induced insulin resistance?
37. During stress induced insulin resistance _____ stimulate lipolysis and muscle proteolysis.
38. What are the long-term effects of stress in regards to insulin?
39. Why will hyperglycemia eventually result from prolonged stress?

NUCLEOTIDES

40. What is a nucleoside?
41. What is a nucleotide?
42. What is a nucleic acid?
43. What is adenosine used for?
44. What is guanosine used for?
45. What is uridine used for?
46. What is cytidine used for?
47. Nucleotides are the collective substrate for _____.
48. What are the pyrimidines?
49. RNA uses which nitrogenous bases?
50. DNA uses which nitrogenous bases?
51. B1 can be derived from _____.
52. What is involved and where does transcription occur?
53. What is involved and where does translation occur?
54. What is a three base sequence on DNA? On mRNA? On tRNA?
55. What are the disorders of purine degradation?
56. What is gout due to and how may it be treated?
57. If you have a disorder of purine degradation, what foods should you avoid?
58. What is lesch--nyan syndrome?
59. What is Von Geirke's disease?
60. What are the essential amino acids?
61. What amino acid is only essential for babies?
62. What is a Zwitterion and give 2 examples.
63. Tryptophan, which makes you sleepy, may be converted into what three aminos?
64. With _____, tyrosine forms a thyroid hormone.
65. Tyrosine and plus melanin help to do what?
66. What are the effects of phenylalanine?
67. Aside of collagen formation, what is an important function of lysine?
68. Methionine may be converted into _____.
69. What is a principal supplier of sulfur?

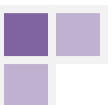


KRS STUDY GUIDES : Quiz Questions : Holtzman : "No, Coke is not water!"

70. What is needed to convert homocysteine back into methionine?
71. Histidine is converted into _____ and found in _____.
72. Blood urea nitrogen, which measures the urea cycle, is elevated by what amino?
73. What is the body's most important excitatory neurotransmitter?
74. Glutamine is the most important _____.
75. What is the primary structure?
76. What is the secondary structure?
77. What is the tertiary structure?
78. What is the quaternary structure?

LIPIDS

79. What is the only sphingolipid that is classified as a phospholipid?
80. HDL's are synthesized in the _____ and they do what?
81. What do LDL's do?
82. Where are they made and what do VLDL's do?
83. What do chylomicrons do?
84. What is beta oxidation?
85. What is alpha oxidation?
86. What is Carnitine used?
87. How may carnitine be synthesized?
88. Lauric acid is a ____ fat with __ carbons found in _____, _____, and _____.
89. What are the unsaturated long chain fatty acids?
90. What are saturated short chain fatty acids? Where are they found?
91. Name an Omega nine fatty acid and some possible sources.
92. Name two lipid storage diseases.
93. What is the cause of death in Tay Sachs?
94. What are the fat metabolism disorders?
95. Type 1 Gaucher's may be treated with _____.
96. Where may the accumulations in Gaucher's be seen?
97. What indicates the number of double bonds in a fatty acid?
98. The higher the saponification number, the _____ the length of fatty acids.
99. What is Malonyl-CoA produced from?
100. Why does fatty acid biosynthesis need to be activated?
101. Give the three simplified steps to cholesterol synthesis. Where does this synthesis occur?
102. What is the rate limited substep of cholesterol synthesis and why is it important?
103. What is the normal ration of n6 to n3?



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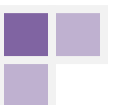
104. What is the rate limiting enzyme of alpha-linoleic catabolism?
105. What desaturates Stearidonic acid?
106. What the hell does desaturation mean anyway?!
107. Delta-5-desaturase converts _____ into an _____.
108. What does Delta-5-desaturase need to convert EPA and who is deficient in D5D?
109. Most Americans are _____ deficient.
110. What are some sources of n3 fatty acids?

WATER

111. _____ water has minerals in it and often tastes unpleasant.
112. How are bottled waters classified?
113. What is a de-mineralized/nitrogenized water? (I know that's not a word)
114. To be classified as mineral water, the water must _____ and contains _____.
115. Although Natural spring water may be _____ or treated, the _____ must not be altered.
116. What is the source of Natural spring water?
117. What is the most common cause of headache?
118. Early dehydration allows for _____ in muscles.

WATER SOLUBLE VITAMINS

119. How shall B vitamins be taken as a supplement? How should they not be taken?
120. What is B1 also known as? What does it prevent?
121. What is B2 also know as? What does it prevent?
122. Riboflavin in synergistic with vitamin ___ to maintain _____.
123. What is B3 also known as? What does it prevent?
124. Why is Beri Beri a relatively new phenomena?
125. _____ does not lower cholesterol but also does not cause a _____.
126. What is B5 also known as? What does it prevent?
127. Pantothenic acid aids in the absorption of _____, which is used for the formation of ___ & ___.
128. What is B6 also known as? What are its deficiencies?
129. Pyridoxine inhibits formation of _____.
130. What helps to inhibit the growth of a chondyloma (HPV) and keep homocysteine levels low?
131. _____ may convert nutrients & fats into energy.
132. What is the master vitamin?
133. _____ Is the synthetic version of folate.
134. Folate is associated with what type of defect?
135. What B 12 also known as? A deficiency of it exhibits what?



136. Vitamin B12, along with folate and B6 help to control the production of _____.
137. Who needs to be careful of getting enough vitamin B12 and name a few possible sources.
138. What medication may block B12 absorption?
139. What vitamin is a strong reducing agent?
140. Who cannot synthesize their own vitamin C?
141. A Vitamin C deficiency results in _____. A total lack results in _____.
142. Vitamin C is synergistic with what vitamins?
143. Vitamin C is also important to the cardiovascular system. How?
144. How may vitamin C be important to diabetics?
145. What may reduce vitamin C levels?
146. What do bioflavonoids do?
147. What bioflavonoid is good for asthmatics and is an anti-allergen?
148. Quercetin is synergistic with what?
149. Where are bioflavonoids found?
150. CoQ10 is a strong _____ responsible for production of _____.
151. CoQ10 levels in the body reduce with _____, and are best taken as a _____ with _____.
152. What are the deficiencies of Ubiquinone?
153. Where can CoQ10 be found?
154. What can CoQ10 be taken for?

