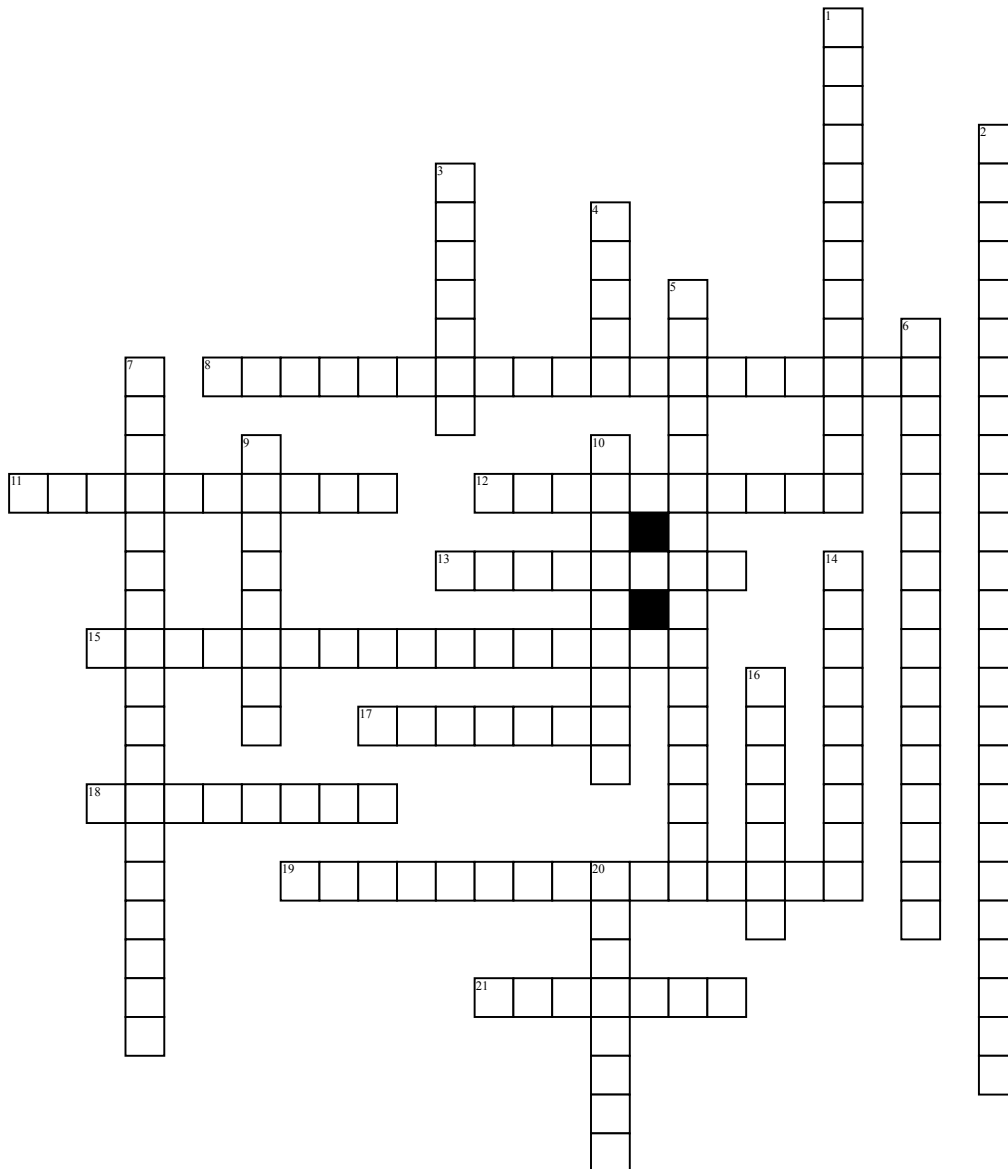


Name: _____

Date: _____

Gluconeogenesis



Across

8. The conversion of pyruvate to oxaloacetic acid using _____.

11. Gluconeogenesis is a close opposite to _____.

12. Gluconeogenesis is the creation of new glucose from lactate, pyruvate, and _____.

13. Glycolysis can be _____ until a glucose-6-phosphate is made.

15. What catalyzes the rate limiting reaction in Gluconeogenesis?

17. Substrates that can undergo this process are lactic acid, pyruvate, _____, and glycerol.

18. This process is stimulated by glucagon, growth hormone, epinephrine, and _____.

19. This is the process of creating a new glucose from non-carbohydrates.

21. Gluconeogenesis does not occur completely in the _____.

Down

1. This Occurs after 30-45 minutes of steady exercise if _____ are not consumed.

2. What is the rate limiting enzyme for Gluconeogenesis?

3. Glucose can be made from _____, glycerol, alanine, and glutamine.

4. Where does this process mostly take place?

5. Liver produces PEP in a _____.

6. Second, the oxaloacetic acid is converted to PEP by what?

7. With PEP formed, glycolysis can occur backwards to produce _____ and uses the enzyme F1,6 bisphosphatase (because PFK cannot be used in this process).

9. Gluconeogenesis is how _____ is used to create glucose.

10. It _____ when insulin levels are low and glucagon levels are high.

14. However, the three fatty acids that result from _____ are taken up by the liver and the muscle to undergo beta oxidation.

16. Lactate is a byproduct in exercising muscle cells, taking the precursor molecules and reconfiguring them to produce _____.

20. Both enzymes (PEP and PEP Carboxykinase) are regulated by?