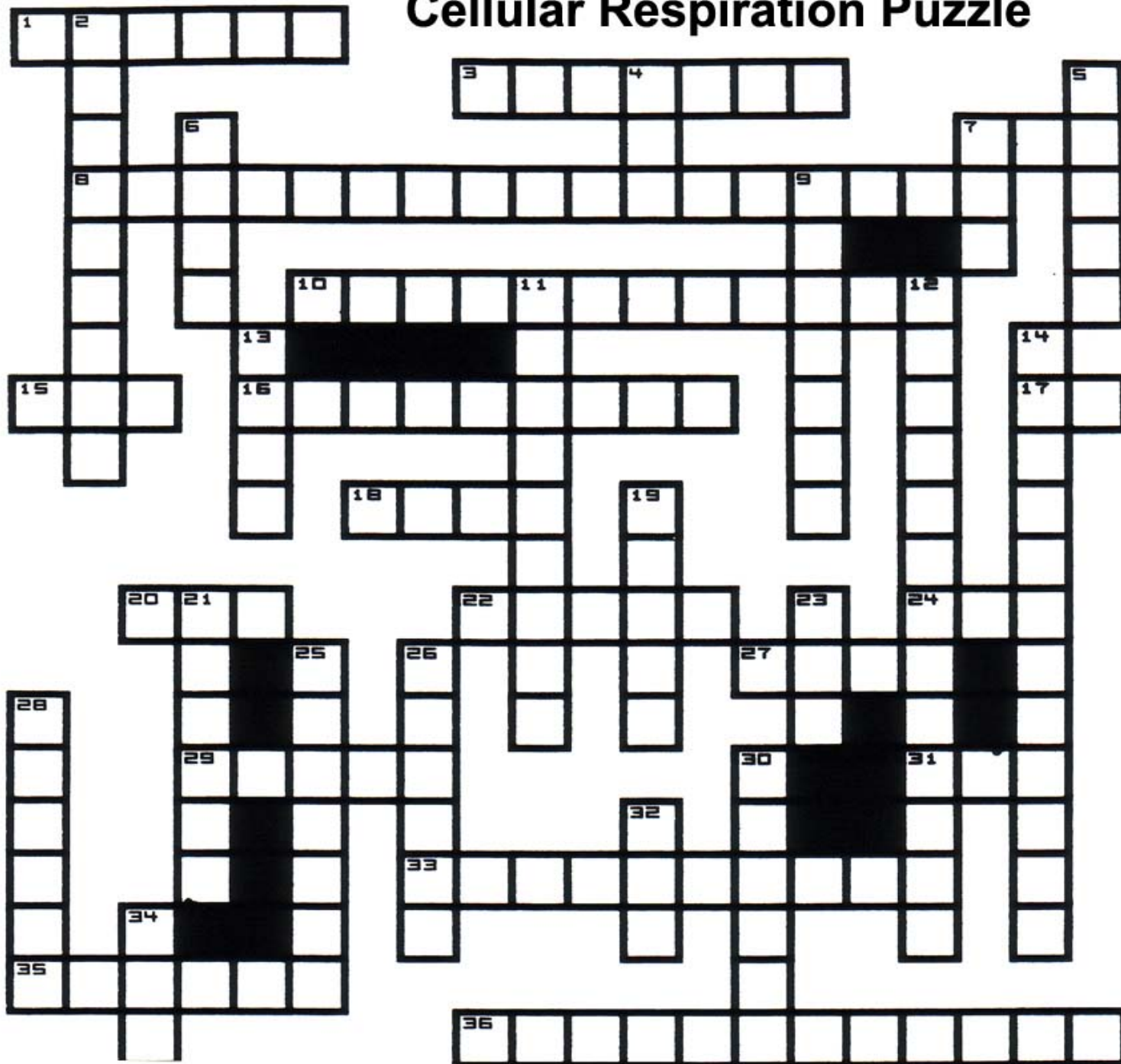


Cellular Respiration Puzzle



ACETYL
ADP
AEROBIC
ANAEROBIC
ATP
ATPSYNTHETASE
CHEMIOSMOSIS
CITRIC
COA
CO2
CYTOPLASM
DEBT
ELECTRONTRANSPORT

ENERGY
ETC
FAD
FERMENTATION
FOOD
GLUCOSE
GLYCOLYSIS
H+
KREBS
LACTIC
MATRIX
MITOCHONDRIA

NADH
NAD
OXIDATION
OXYGEN
PUMP
PYRUVIC
SIX
SPACE
THREE
TWO
TWO
WATER

Cellular Respiration Puzzle

ACROSS CLUES

1. The location of the Krebs cycle inside the mitochondria.
3. The 6-C compound that is the main energy source for cellular respiration.
7. _____ converts to ATP by capturing energy and a phosphate.
8. The cytochromes on the mitochondrial inner membrane is called the _____ chain.
10. The "powerhouse" of the cell where ATP is made by chemiosmosis.
15. The number of CO₂ formed from the complete oxidation of one glucose.
16. The removal of H⁺ ions or e⁻ is called _____. Also the opposite of reduction.
17. The ion that is a single proton.
18. The proton _____ actively transports H⁺ across the inner membrane creating a gradient.
20. A vitamin coenzyme (riboflavin) that is H-carrier in the Krebs cycle.
22. At the end of the electron transport chain $2e^- + 2H^+ +$ oxygen unite to form _____.
24. The number of net ATP made during glycolysis.
27. Reduced NAD⁺.
29. Each NADH + H⁺ yields _____ ATP being made during chemiosmosis.
31. Each FADH₂ results in _____ ATP being made during chemiosmosis.
33. Phase that converts a 6-C glucose to two 3-C pyruvic acids.
35. First compound of the Krebs cycle formed by combining acetylCoA and oxaloacetic acid is _____ acid.
36. _____ produces ATP anaerobically and results in the production of lactic acid or alcohol.

DOWN CLUES

2. Type of cellular respiration that occurs in the cytoplasm.
4. Abbr. for the Coenzyme that joins with an acetyl group to carry cell respiration to Krebs cycle.
5. The intermembrane _____ in the mitochondria is where H⁺ are pumped to dam up energy.
6. As lactic acid accumulates, a person develops an oxygen _____ that has to be repaid later.
7. The main objective of cellular respiration to produce _____.
9. A 3-C compound formed at the end of glycolysis.
11. The location of glycolysis and fermentation in the cell.
12. The enzyme at the end of the electron transport system that catalyzes the production of ATP.
13. The _____ we take in daily provides the energy for oxidative phosphorylation.
14. The chemical formation of ATP coupled to a diffusion process of H⁺ similar to osmosis is _____.
19. The phase of cell respiration where the most NAD⁺ and FAD⁺ are reduced to FADH₂ and NADH + H⁺.
21. The 2-C compound formed between glycolysis and the Krebs cycle.
23. A vitamin (niacin) coenzyme that is a H-carrier.
25. The type of cellular respiration that requires oxygen and produces that greatest amount of ATP's.
26. As chemical bonds are broken _____ is released in various forms.
28. Muscle cells deprived of sufficient oxygen produce _____ acid and regenerate NAD⁺.
30. The final e⁻/H⁺ acceptor at the end of the electron transport chain.
32. The gas released as C-O-O complexes are broken off during the chemical reactions.
34. Abbr. for electron transport chain.