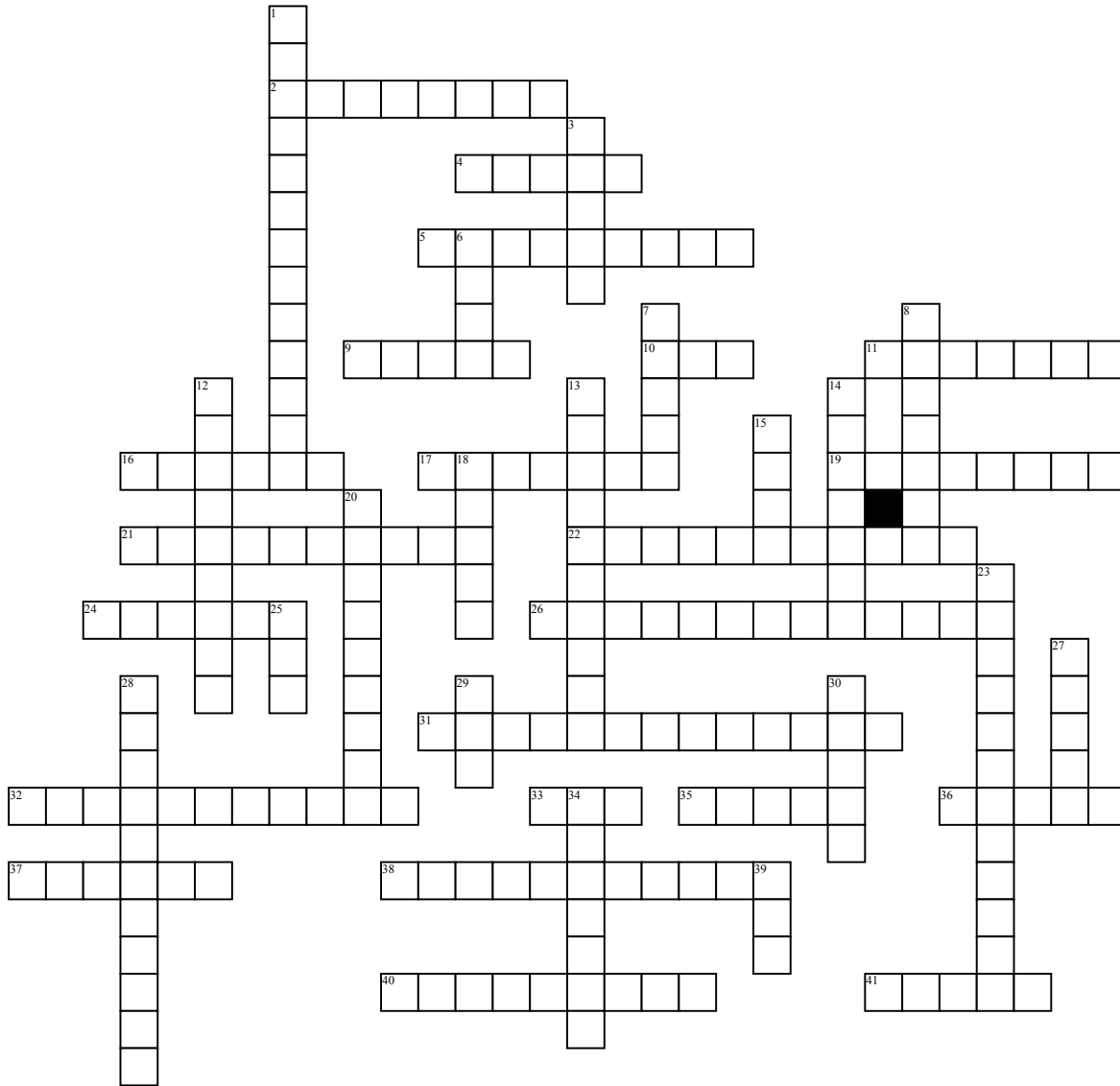


Photosynthesis Cross-Word Puzzle



Across

- 2. H⁺ ions move from the stroma to the thylakoid _____.
- 4. What does a light dependent reaction require?
- 5. What protects the interior leaf cells and regulates the exchange of gases?
- 9. What is NADP⁺ converted into?
- 10. During chemiosmosis, H⁺ ions move across the membrane to create _____.
- 11. What initially catalyzes a light independent reaction?
- 16. When water is broken down, the products left are electrons, H⁺, and _____.
- 17. What is the product of light dependent reactions?
- 19. Chloroplasts contain their own DNA and two membranes because they were once free-living _____.
- 21. What cells expand and contract to open and close the stomata?
- 22. PS is short for what?
- 24. What is the space outside of the thylakoids but in the chloroplast where light independent reactions occur?
- 26. What donates carbon and oxygen to make glucose?
- 31. What is the form of symbiosis where bacteria live inside the eukaryotic cell?
- 32. What is embedded in the plasma membrane of the thylakoid?
- 33. Once charged up, the electrons from the broken-down water travel from the PS II to the _____.

- 35. What donates hydrogen and electrons?
 - 36. What are stacks of layered thylakoids called?
 - 37. Where do light independent reactions take place?
 - 38. What is the organelle of photosynthesis?
 - 40. What is stage 2 of the Calvin Cycle?
 - 41. What runs through the mesophyll and are made of xylem and phloem?
- Down**
- 1. What kind of membrane does the thylakoid have?
 - 3. How many Calvin cycles does it take to get one glucose molecule?
 - 6. H⁺ ions are transported from the outside to the inside of the thylakoid membrane through a hydrogen _____.
 - 7. True or false: a light dependent reaction can function without light energy.
 - 8. What is the outer layer of both sides of a leaf made of?
 - 12. Where does the light dependent reaction take place?
 - 13. ATP donates energy and _____.
 - 14. During stage 1 of the Calvin Cycle, the enzyme _____ incorporates CO₂ into an organic molecule.
 - 15. During ATP synthase, from what does ADP get the energy to be converted into ATP?
 - 18. The electron _____ energy as it moves from PS II to PS I.
 - 20. The very inside portion of the leaf is the _____, and it is interior to the epidermal layers.

- 23. What is stage 3 of the Calvin cycle?
- 25. The reactants of light dependent reactions are NADPH, _____, and CO₂.
- 27. Chlorophyll is a _____ pigment.
- 28. The thylakoid is part of the _____.
- 29. After three turns in the Calvin Cycle, how many GP3 molecules are made?
- 30. In the electron transport chain, how do electrons get their energy?
- 34. The regulation of gas exchanged is mediated through holes in the epidermis called _____.
- 39. Light dependent reactions are one out of _____ stages of photosynthesis.