

**Chapter 8 Photosynthesis**

**Vocabulary Review**

**Matching** *In the space provided, write the letter of the definition that best matches each term.*

- |                                     |   |
|-------------------------------------|---|
| _____ 1. photosynthesis             | a. clusters in the thylakoid membrane of chlorophyll and other pigments   |
| _____ 2. chlorophyll                | b. the region of the chloroplast outside the thylakoid membranes  |
| _____ 3. pigment                    | c. electron carrier   |
| _____ 4. adenosine triphosphate     | d. process in which plants use the energy of sunlight to make high-energy carbohydrates                           |
| _____ 5. thylakoid                  | e. reactions that use ATP and NADPH to produce high-energy sugars   |
| _____ 6. photosystems               | f. light-absorbing molecules  |
| _____ 7. stroma                     | g. the basic energy source of all cells   |
| _____ 8. NADP <sup>+</sup>          | h. reactions that produce oxygen gas and convert ADP and NADP <sup>+</sup> into the energy carriers ATP and NADPH |
| _____ 9. Calvin cycle               | i. saclike photosynthetic membranes in chloroplasts   |
| _____ 10. light-dependent reactions | j. principal pigment of plants  |

**Answering Questions** *In the space provided, write an answer to each question.*

- 11. What is an organism that obtains energy from the food it consumes? \_\_\_\_\_  
\_\_\_\_\_
- 12. What is an organism that is able to make its own food? \_\_\_\_\_  
\_\_\_\_\_
- 13. What is released when the chemical bond is broken between the second and third phosphates of an ATP molecule? \_\_\_\_\_  
\_\_\_\_\_
- 14. What are the reactants of the equation for photosynthesis? \_\_\_\_\_  
\_\_\_\_\_
- 15. What are the products of the equation for photosynthesis? \_\_\_\_\_  
\_\_\_\_\_

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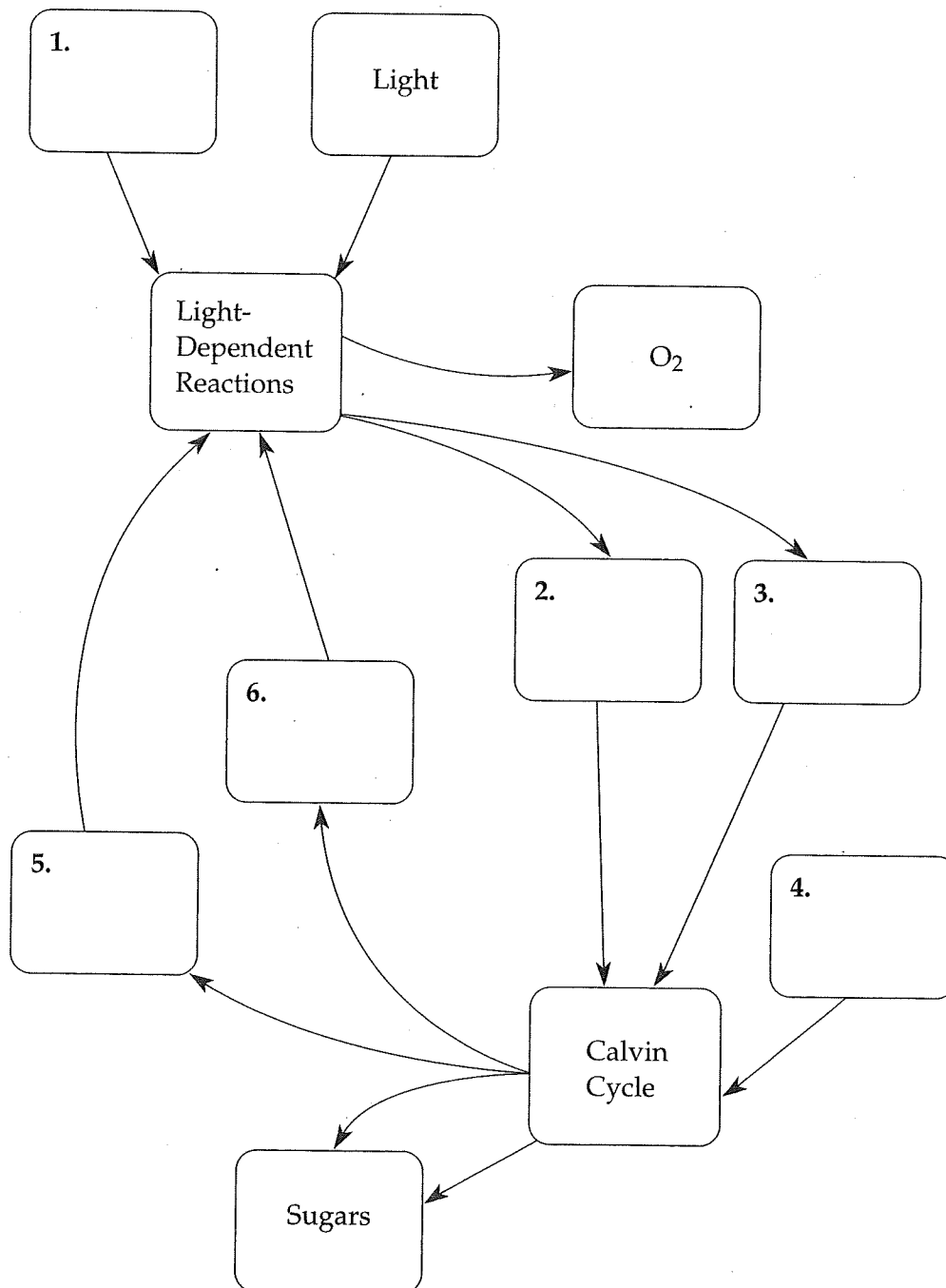
**Chapter 8 Photosynthesis**

**Graphic Organizer**

**Flowchart**

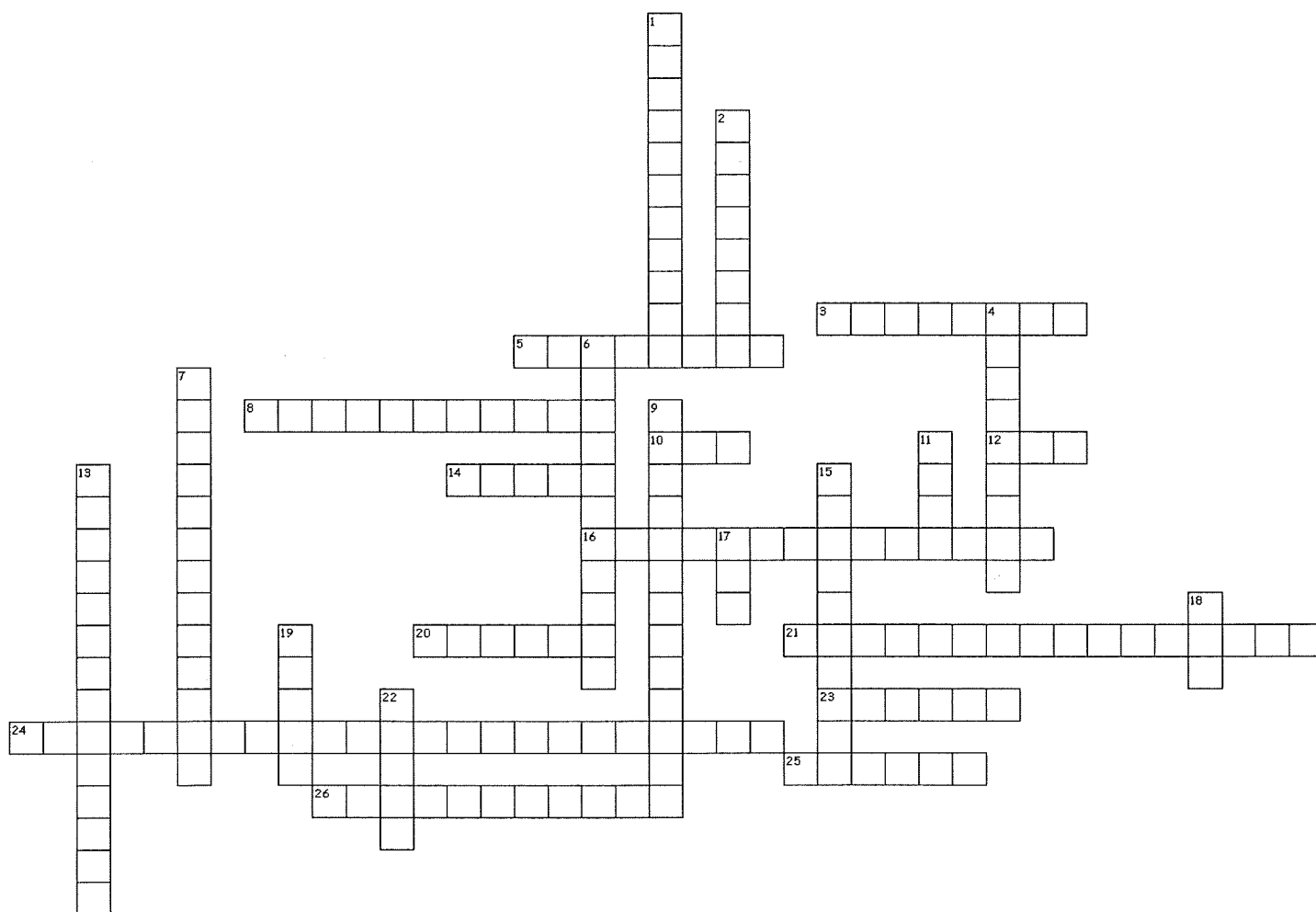
The following flowchart represents the reactions of photosynthesis. Fill in the missing information using the formulas listed below.

$NADP^+$      $ATP$      $ADP$   
 $H_2O$      $CO_2$      $NADPH$



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## Ch. 8 Review Puzzle



### Across

3. Scientist that used extinguished candles and a jar to prove that plants make oxygen
5. Effect that low temps and low light conditions have on photosynthesis
8. Chief photosynthetic pigment found in plants
10. Discharged energy storage molecule
12. Energy storage molecule produced by mitochondria
14. Liquid needed for both light-dependant reactions and Calvin cycle
16. Process where photosynthetic organisms use water, CO<sub>2</sub> and sunlight to produce sugars and oxygen.
20. Products of Calvin cycle (light-independent reactions)
21. Molecules that can accept high energy electrons and move them to other molecules
23. Gaseous product of photosynthesis
24. Require the solar energy of sunlight to excite chlorophyll molecules and begin photosynthesis
25. The liquid portion of chloroplasts
26. Special membrane protein that helps to generate ATP for cells

Down

1. Another name for the light-in dependant reactions of photosynthesis
2. Molecules that absorb energy from the sun
4. Inner folded membrane of a chloroplast
6. Photosynthetic organelle found only in plants, algae, and some bacteria
7. Process used to release energy from molecules
9. Gaseous reactant needed for the Calvin Cycle
11. Main wavelength of color absorbed by plants
13. Technique used to separate pigments from leaves using paper and an alcohol solvent
15. Scientist that experimented with soil and plant growth
17. Number sugar molecules produced by a single round of photosynthesis
18. Number of CO<sub>2</sub>, H<sub>2</sub>O, and O<sub>2</sub> molecules produced by a single round of photosynthesis
19. Main wavelength of color reflected by plants
22. Nicotinamide adenine dinucleotide phosphate