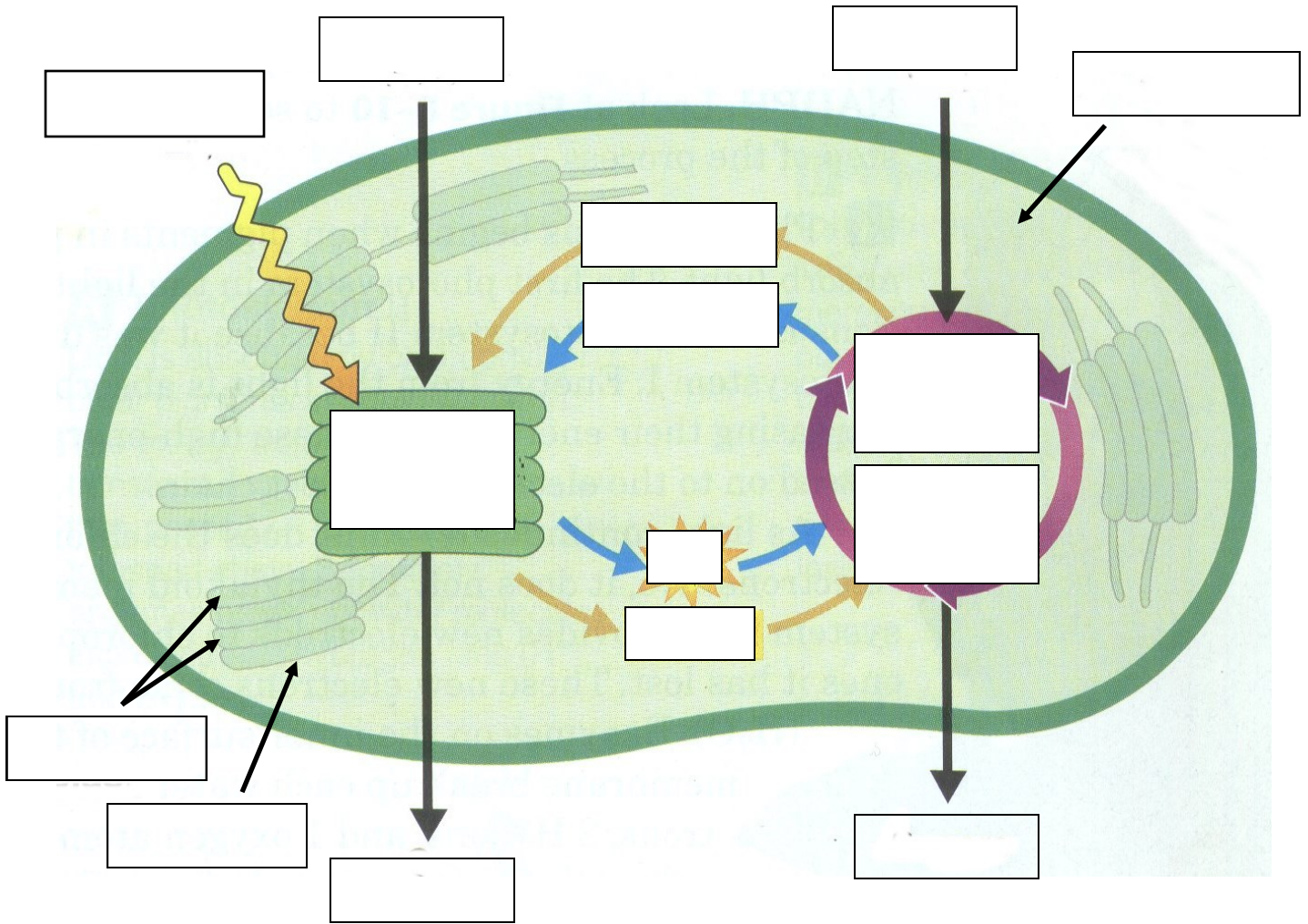


# Worksheet: Photosynthesis and Cellular Respiration

## BIOLOGY

**Part 1:** Label the diagram below using the following:  $H_2O$ ,  $CO_2$ ,  $O_2$ , Glucose, Light-Dependent Reaction, Light-Independent Reaction, Calvin Cycle,  $NADP^+$ ,  $ADP + P$ , ATP, NADPH, Sunlight, grana, stroma, thylakoids



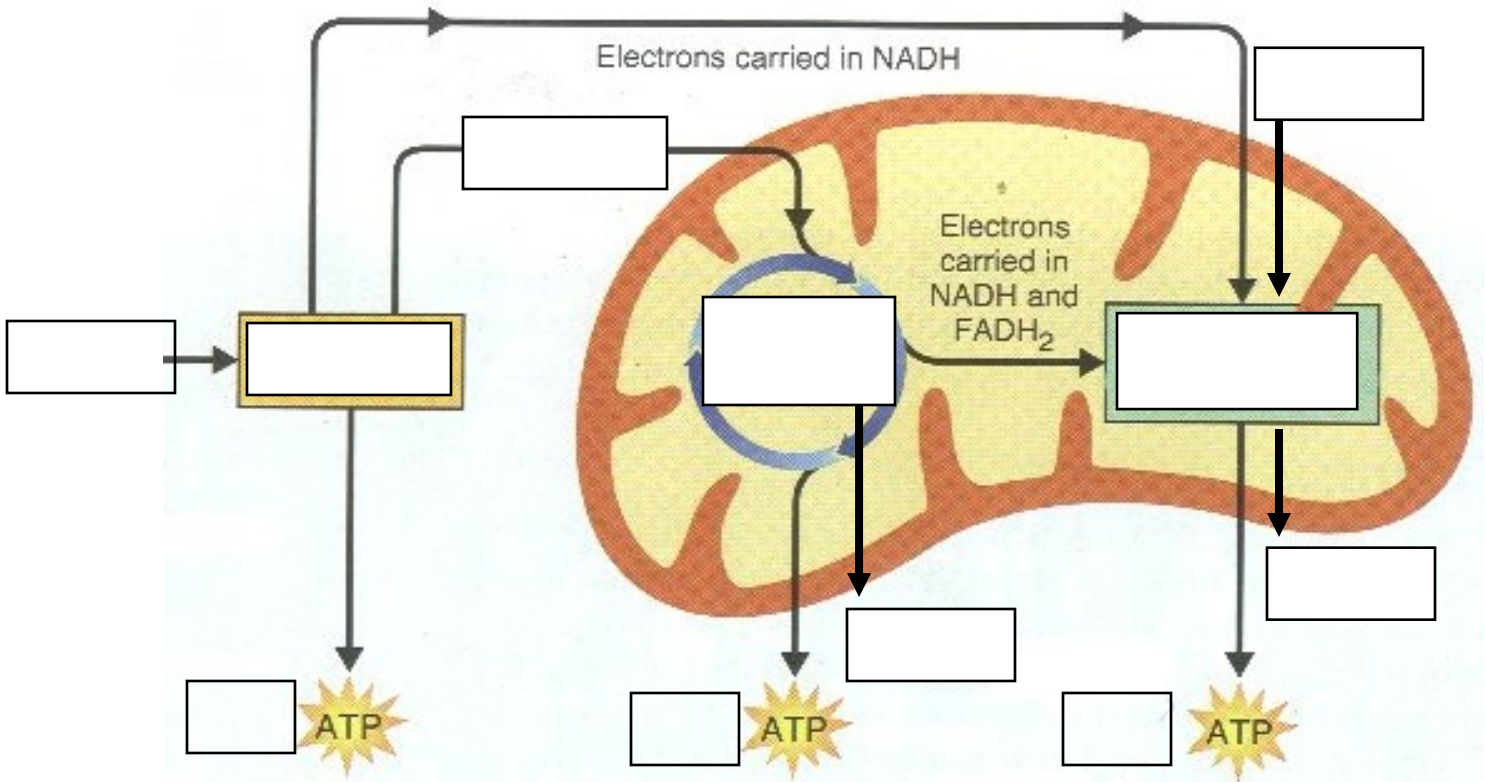
**Questions:**

1. What are three factors that affect the rate of **photosynthesis**?
2. How do plants store the excess energy they produce? Give examples
3. Why do most plants appear **green** in color?
4. Why do they sometimes say that the forests of our planet are the “lungs of earth”?

Complete the table below

Photosynthesis	
Function	
Overall Equation	
Reactants	
Products	
Location of Light-Dependent Reaction	
Location of Light-Independent Reaction	

Part 2: Label the diagram below using the following: Electron Transport Chain, Glycolysis, Glucose, Krebs Cycle, pyruvic acid, 2, 32, 2, H<sub>2</sub>O, O<sub>2</sub>, CO<sub>2</sub>



Complete the table below

Cellular Respiration	
Function	
Overall Equation	
Reactants	
Products	
Location of Glycolysis	
Location of Cellular Respiration	
Starting molecule of Glycolysis	
Starting molecule of Cellular Respiration	
Number of ATP produced in Glycolysis	
Total number of ATP produced in Glycolysis + Cellular Respiration	

**Questions:**

5. How are the processes of **photosynthesis** and **cellular respiration** dependent on each other?

6. What does the word “**glycolysis**” mean?

7. What is the difference between an **aerobic** process and an **anerobic** process?

8. What happens after glycolysis if **oxygen** is present?

9. What happens after glycolysis if **oxygen** is not present?
10. What is the purpose of **fermentation**?
11. What are the two types of **fermentation** and where do they occur?
12. What does **ATP** stand for?
13. What are the three basic parts of an ATP molecule?
14. How does **ATP** release energy when it is needed in the cell?
15. How does **ADP** stand for?
16. How does an **ADP** molecule get “recharged” and turned back into an **ATP** molecule?
17. What is the most common type of **carbon-based** food molecules that are used to provide energy in living things?
18. Why are **proteins** rarely broken down and used to produce energy in living things?
19. What type of organic compounds do **plants** store their excess energy?
20. What type of organic compounds do **animals** normally store their excess energy?