

YEAR 12 BIOLOGY 2021

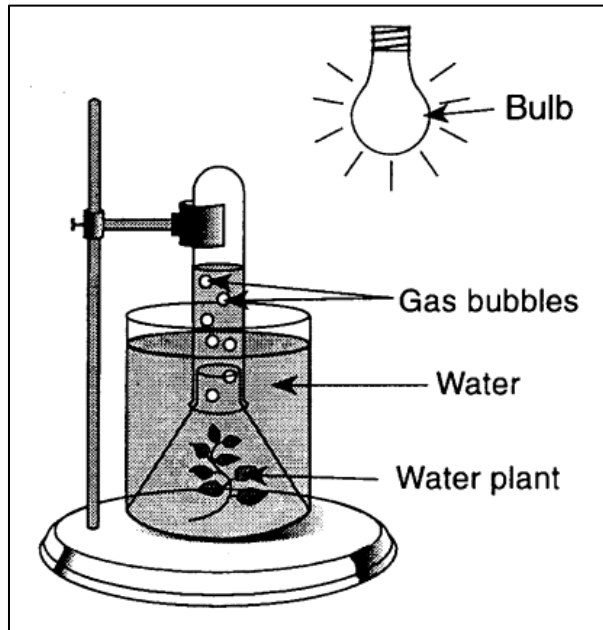
WORKSHEET 2

STRAND I: STRUCTURE AND LIFE PROCESSES

SUB-STRAND: METABOLIC PROCESSES

DAY 1

1. Use the following diagram to answer questions.



<https://www.goggle.com>

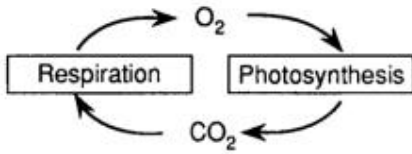
The gas released in this investigation is

- A. carbon dioxide.
 - B. hydrogen.
 - C. nitrogen.
 - D. oxygen.
2. Which could be used to monitor the rate of photosynthesis in a plant?
- A. oxygen production
 - B. water production
 - C. hydrogen production
 - D. carbon dioxide production

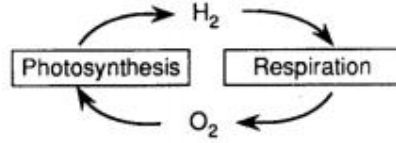
DAY 2

3. Which of the following diagrams represents the correct cycling of gases?

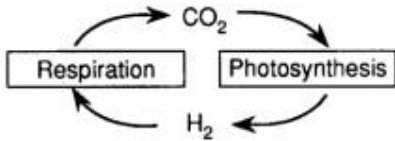
A.



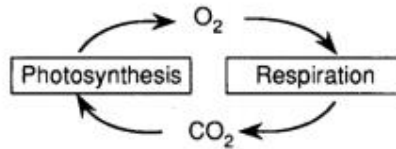
C.



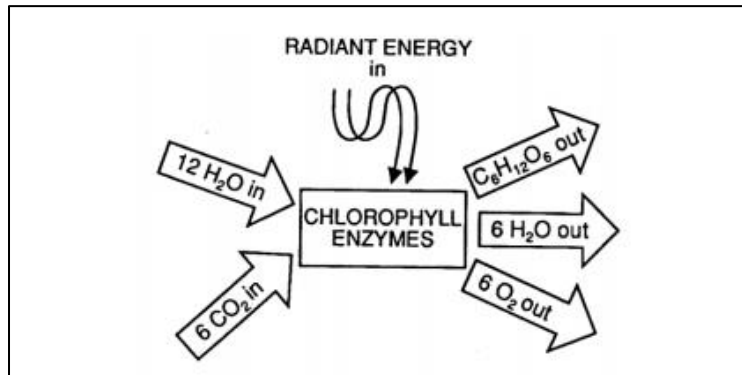
B.



D.



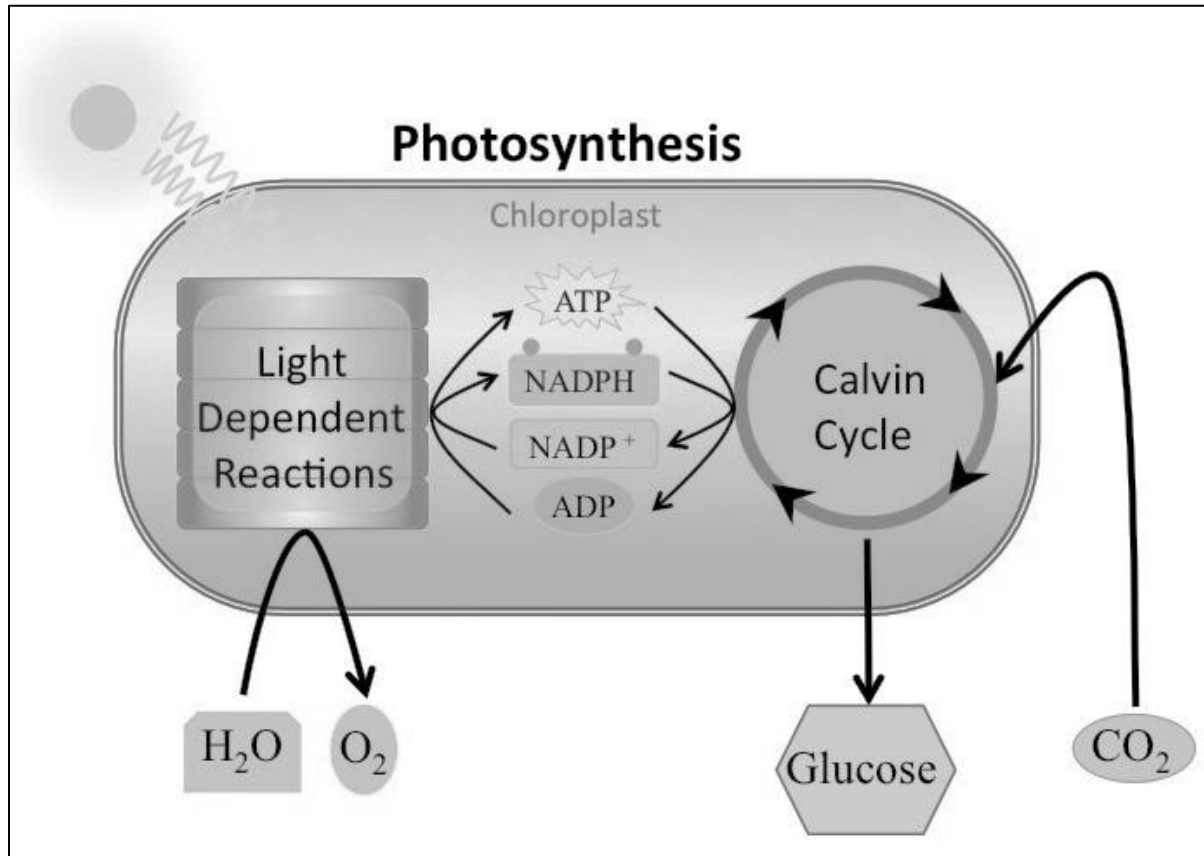
4. Which process is best illustrated by the diagram?



- A. cellular respiration
- B. digestion
- C. Photosynthesis
- D. fermentation

DAY 3

Use the diagram given below to fill in the blanks.



1. The purpose of photosynthesis is to _____.
2. Photosynthesis takes place in the _____ (organelle), which has ___ major steps.
3. The first step is called _____, which takes place in the _____ of the _____ (organelle). In this step, _____ splits _____. The ___ atom is used to form _____ and _____ from _____ and _____.

_____ is created as a by-product, which gets put into the air.

4. The two energy molecules _____ and _____ are used in the next step of photosynthesis called the _____, which takes place in the _____ of the _____ (organelle). These energy molecules convert CO_2 molecules to make *glucose*, the plant's food. *NADPH* and *ATP* (energy molecules) are broken down into *NADP+* and *ADP+P*.

5. _____ can be used to make *ATP*, stored as *starch*, and *fats*, and used to make *cellulose*.

DAY 4

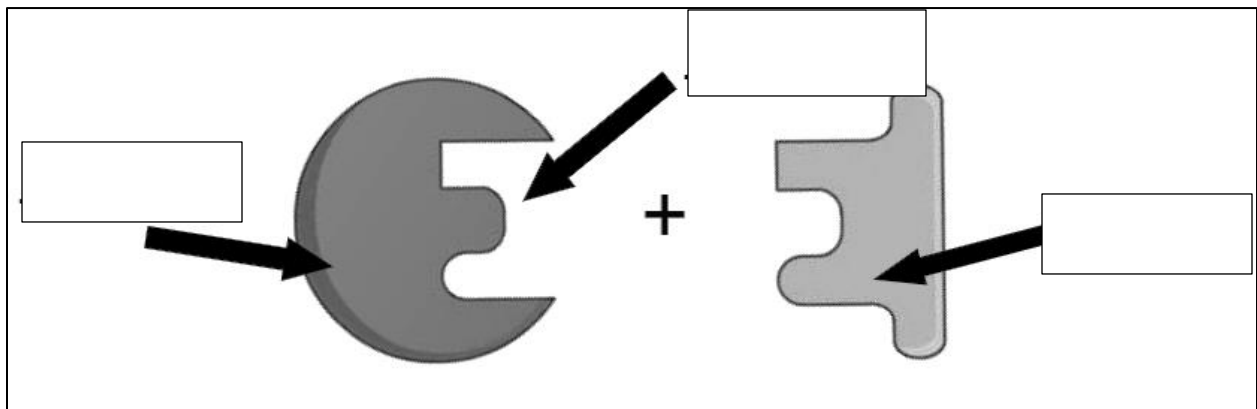
1. Compare lactic acid fermentation and alcoholic fermentation by describing what pyruvic acid is changed in to. Be sure to include what type of organism each one takes place in.

	What is pyruvic acid changed into?	Organism:
Alcoholic Fermentation		
Lactic Acid Fermentation		

2. Explain when and why does our body use lactic acid fermentation?

DAY 5

1. Label the image below with the following terms: active site, reactant, enzyme



- (i) What is the common name for the above model?
- (ii) There are many factors that affect the rate of enzyme-catalyzed reactions, including temperature. Name **two** other factors.
- (iii) What would happen to an enzyme if the temperature and pH changed significantly beyond the enzyme's optimum level?