

# CHAPTER 8.2 Practice Answer KEY

## Chlorophyll and Chloroplasts

For Questions 1–6, complete each statement by writing the correct word or words.

1. The *wavelength* \_\_\_\_\_ of light determines its color.
2. Chemicals that absorb light are called *Pigments*.
3. Chlorophyll makes plants look green because it *Reflects* green light.
4. Chloroplasts contain an abundance of saclike photosynthetic membranes called *thylakoids* \_\_\_\_\_.
5. The *stroma* is the fluid portion of the chloroplast located outside the thylakoids.
6. The visible light absorbed by chlorophyll *increases* the energy level of the chlorophyll's electrons.

## High-Energy Electrons

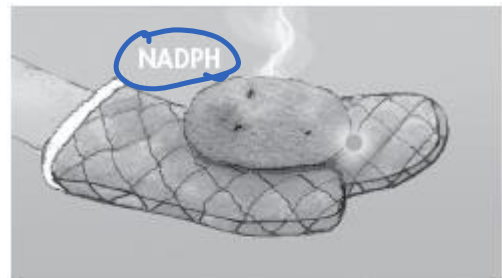
For Questions 8–9, refer to the Visual Analogy comparing electron carriers to oven mitts.

8. **VISUAL ANALOG** In the visual analogy of carrying electrons, what represents the high-energy electrons?

Hot potato/cookie (heat, steam)

\_\_\_\_\_

\_\_\_\_\_



10. Where do the high-energy electrons carried by NADPH come from?

Water molecules are split into O<sub>2</sub>, H<sup>+</sup>, and high energy electrons

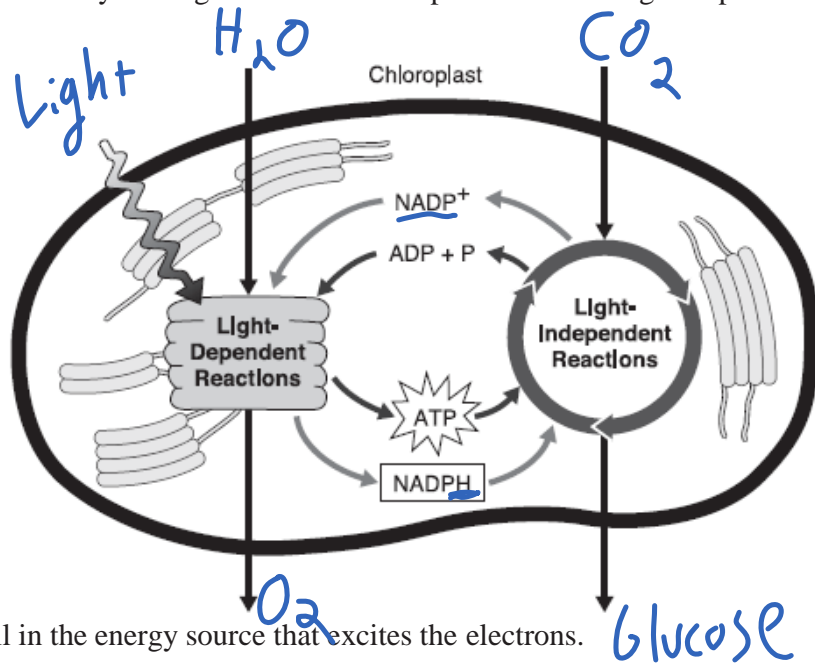


## An Overview of Photosynthesis

For Questions 11–13, write the letter of the correct answer on the line.

- \_\_\_\_\_ 11. What are the reactants of the photosynthesis reaction?
- A. chlorophyll and light  
**B.** carbon dioxide and water  
C. carbohydrates and oxygen  
D. high-energy electrons and air
- \_\_\_\_\_ 12. What are the products of the light-dependent reactions?
- A. chloroplasts and light  
B. proteins and lipids  
**C.** oxygen and ATP  
D. water and sugars
- \_\_\_\_\_ 13. Where do the light-independent reactions occur?
- A.** stroma  
B. thylakoids  
C. chlorophyll  
D. mitochondria

14. Complete the illustration by writing the reactants and products of the light-dependent and light-independent



reactions. Also, fill in the energy source that excites the electrons.

15. Solar power uses cells or panels to absorb the sun's energy. That energy is then used to create electricity. How does this compare to the light dependent reactions of photosynthesis?

Light energy excites electrons to be picked up by NADPH and used to build glucose ,  
on solar panels the light energy can cause the electrons to become electrical energy  
that can be used in a home

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