Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Photosynthesis

Independent Questions 9-15

9. Which of the following are products of the light reactions of photosynthesis that are utilized in the Calvin cycle?

A) CO2 and glucose

B) H2O and O2

C) ADP, i, and NADP+

D) ATP and NADPH

Topic: Concept 10.1

Skill: Knowledge/Comprehension

10. In photosynthetic cells, synthesis of ATP by the chemiosmotic mechanism occurs during

A) photosynthesis only.

B) respiration only.

C) both photosynthesis and respiration.

D) neither photosynthesis nor respiration.

Topic: Concept 10.2

Skill: Knowledge/Comprehension

11. Reduction of oxygen to form water occurs during

A) photosynthesis only.

B) respiration only.

C) both photosynthesis and respiration.

D) neither photosynthesis nor respiration.

Topic: Concept 10.2

Skill: Knowledge/Comprehension

12. Reduction of NADP+ occurs during

A) photosynthesis.

B) respiration.

C) both photosynthesis and respiration.

D) neither photosynthesis nor respiration.

Topic: Concept 10.2

Skill: Knowledge/Comprehension

13. The splitting of carbon dioxide to form oxygen gas and carbon compounds occurs during

A) photosynthesis.

B) respiration.

C) both photosynthesis and respiration.

D) neither photosynthesis nor respiration.

Topic: Concept 10.2

Skill: Knowledge/Comprehension

14. Generation of proton gradients across membranes occurs during

A) photosynthesis.

B) respiration.

C) both photosynthesis and respiration.

D) neither photosynthesis nor respiration.

Topic: Concept 10.2

Skill: Knowledge/Comprehension

15. Three "turns" of the Calvin cycle generate a "surplus" molecule of glyceraldehyde 3-phosphate (G3P). Which of the following is a consequence of this?

A) Formation of a molecule of glucose would require nine "turns."

B) G3P more readily forms sucrose and other disaccharides than it does monosaccharides.

C) The formation of sucrose and starch in plants involves assembling G3P molecules, with or without further rearrangements.

D) Plants accumulate and store G3P.

Topic: Concept 10.3

Skill: Synthesis/Evaluation