Photosynthesis Practice Questions

Practice Test

Name: _____ Date: _____

Answer each question. For short answer, respond in one or two complete sentences.

Section 1 · Multiple Choice

1. Which of the following is a product of photosynthesis?
   A) Carbon dioxide
   B) Oxygen
   C) Nitrogen
   D) Methane

2. Where in the plant cell does the Calvin cycle take place?
   A) Thylakoid membrane
   B) Stroma
   C) Mitochondrial matrix
   D) Cell wall

3. Which pigment absorbs light most efficiently in the red and blue parts of the spectrum?
   A) Carotenoid
   B) Xanthophyll
   C) Chlorophyll a
   D) Anthocyanin

4. What gas do plants take in for photosynthesis?
   A) Oxygen
   B) Nitrogen
   C) Carbon dioxide
   D) Hydrogen

Section 2 · Short Answer

5. In one sentence, write the overall chemical equation for photosynthesis.

6. Explain why photosynthesis slows down at very high temperatures.

Answer Key

Section 1 · Multiple Choice

1. **B**
   Photosynthesis produces glucose and oxygen from carbon dioxide and water.
2. **B**
   The Calvin cycle occurs in the stroma; the light reactions occur in the thylakoid membrane.
3. **C**
   Chlorophyll a is the primary pigment of photosynthesis and absorbs strongly in red and blue.
4. **C**
   Plants absorb CO2 through stomata and use it to build glucose.

Section 2 · Short Answer

5. **6 CO2 + 6 H2O + light energy -> C6H12O6 + 6 O2.**
6. **Enzymes that catalyze the reactions denature at high temperatures, so the rate of the Calvin cycle drops.**