

Test-Taking Tip

If you find particular questions difficult, put a light pencil mark beside them and keep working. (Do not write in this book.) As you answer later questions, you may find information that helps you answer the difficult questions.

Directions: Choose the letter that best answers the question or completes the statement.

- Which of the following is a basic requirement of plants?
 - Sunlight
 - Carbon dioxide
 - Water

(A) I only (D) II and III only
(B) II only (E) I, II, and III
(C) I and II only
- What stage is represented by cones?
 - Sporophytes
 - Gametophytes
 - Pollen grains

(A) I only (D) II and III only
(B) II only (E) I, II, and III
(C) I and II only
- Which of the following is NOT a characteristic of dicots?

(A) branched veins
(B) taproot
(C) parallel veins
(D) vascular bundles in a ring
(E) two cotyledons
- Which of the following is the structure associated with gymnosperms?

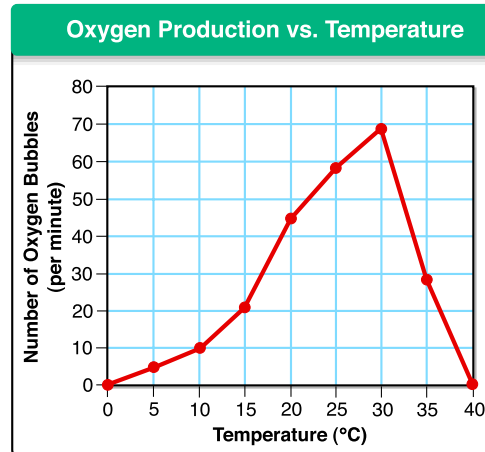
(A) flower (D) covered seed
(B) cone (E) broad leaves
(C) branched veins

Questions 5–8 Each of the lettered choices below refers to the following numbered statements. Select the best lettered choice. A choice may be used once, more than once, or not at all.

- (A) Gymnosperm (D) Cotyledon
(B) Pollen grain (E) Protonema
(C) Fruit
- Male gametophyte
 - Cone-bearing plant
 - Seed leaf
 - Plant ovary

Questions 9–11

A group of students placed a sprig of a conifer in a beaker of water. They measured the amount of oxygen given off during a set period of time to determine the rate of photosynthesis. They changed the temperature of the beaker using an ice bucket and a hot plate. Their data are summarized in the graph below.



- What is the independent variable in the students' investigation?

(A) light intensity (D) oxygen bubbles
(B) temperature (E) photosynthesis rate
(C) plant growth
- Which variables should the students have held constant?
 - Plant type
 - Temperature
 - Light intensity

(A) I only (D) II and III only
(B) II only (E) I, II, and III
(C) I and III only
- What can you conclude based on the graph?
 - The higher the temperature, the more oxygen bubbles are released.
 - There is an optimum temperature for photosynthesis in this species of conifer.
 - All plants are most efficient at 30°C.

(A) I only (D) II and III only
(B) II only (E) I, II, and III
(C) I and II only

Standardized Test Prep

- | | | |
|------|------|-------|
| 1. E | 5. B | 9. B |
| 2. B | 6. A | 10. C |
| 3. C | 7. D | 11. B |
| 4. B | 8. C | |

Writing in Science

Student paragraphs should include comparisons between the location of spore production, how sperm reach eggs, what occurs during fertilization, and the seed compared to the young gametophyte of seedless plants.

Performance-Based Assessment

Student time lines should include a multicellular green alga, a moss, a fern, a gymnosperm such as a conifer, and an angiosperm such as a geranium. Major milestones include vascular tissue, seeds, and seeds enclosed in fruits.

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Your students can independently test their knowledge of the chapter and print out their test results for your files.