

## CHAPTER 38: Plant Reproduction

1. Identify the general functions of the parts of a flower.

- a. sepal - \_\_\_\_\_
- b. petal - \_\_\_\_\_
- c. stamen - \_\_\_\_\_
- d. carpel - \_\_\_\_\_
- e. pistil - \_\_\_\_\_
- f. stigma - \_\_\_\_\_
- g. anther - \_\_\_\_\_
- h. ovule - \_\_\_\_\_

2. When does the sporophyte and gametophyte generation begin in the typical angiosperm?

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3. How does pollination overcome the absence of water problem?

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4. What is the difference between self and cross-pollination?

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5. What is meant by double fertilization?

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6. What function does self-incompatibility serve?

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7. What is the concept of photoperiodism?

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8. What is the difference between SDPs and LDPs?

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9. Identify some asexual mechanisms for plant reproduction.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

10. What are the pros and cons of asexual reproduction for plants?

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**END OF CHAPTER 38 MULTIPLE CHOICE**

1. Sexual reproduction in angiosperms
  - A) is by way of apomixis.
  - B) requires the presence of petals.
  - C) can be accomplished by grafting.
  - D) gives rise to genetically diverse offspring.
  - E) cannot result from self-pollination.
  
2. The typical angiosperm female gametophyte
  - A) is called a megaspore.
  - B) has eight nuclei.
  - C) has eight cells.
  - D) is called a pollen grain.
  - E) is carried to the male gametophyte by wind or animals.
  
3. Pollination in angiosperms
  - A) never requires external water.
  - B) never occurs within a single flower.
  - C) always requires help by animal pollinators.
  - D) is also called fertilization.
  - E) makes most angiosperms independent of external water for reproduction.
  
4. Which statement about double fertilization is *not* true?
  - A) It is found in most angiosperms.
  - B) It takes place in the microsporangium.
  - C) One of its products is a triploid nucleus.
  - D) One sperm nucleus fuses with the egg nucleus.
  - E) One sperm nucleus fuses with two polar nuclei.
  
5. The suspensor
  - A) gives rise to the embryo.
  - B) is heart-shaped in eudicots.
  - C) separates the two cotyledons of eudicots.
  - D) ceases to elongate early in embryonic development.
  - E) is larger than the embryo.

6. Which statement about photoperiodism is *not* true?
- A) It is related to the biological clock.
  - B) A phytochrome plays a role in the timing process.
  - C) It is based on measurement of the length of the night.
  - D) Most plant species are day-neutral.
  - E) It is limited to plants.
7. Before florigen was isolated, we thought it exists because
- A) night length is measured in the leaves, but flowering occurs elsewhere.
  - B) it is produced in the roots and transported to the shoot system.
  - C) it is produced in the coleoptile tip and transported to the base.
  - D) we think that gibberellin and florigen are the same compound.
  - E) it may be activated by prolonged (more than a month) chilling.
8. Which statement about vernalization is *not* true?
- A) It may require more than a month of low temperatures.
  - B) The vernalized state generally lasts for about a week.
  - C) Vernalization makes it possible to have a winter wheat crop each year.
  - D) It is accomplished by subjecting moistened seeds to chilling.
  - E) It was of interest to Russian scientists because of their native climate.
9. Which of the following does *not* participate in asexual reproduction?
- A) Stolon
  - B) Rhizome
  - C) Zygote
  - D) Tuber
  - E) Corm
10. Apomixis involves
- A) sexual reproduction.
  - B) meiosis.
  - C) fertilization.
  - D) a diploid embryo.
  - E) no production of a seed.