

## Reproduction in Flowering Plants

1. State a function of the sepal.
2. State a function of each of the following parts of a flower: petal; sepal; anther.
3. What is the function of the petal? Give **two** ways in which it may be adapted for this function
4. From what does a seed develop?
5. In relation to flowering plants explain what is meant by vegetative propagation.
6. Distinguish between endospermic and non-endospermic seeds.
7. Give **two** examples of natural vegetative propagation that involve different parts of a plant.
8. What is meant by the germination of a seed?
9. Suggest a benefit of artificial propagation.
10. Clones are genetically identical individuals. Are the products of vegetative propagation clones? Explain your answer.
11. State three environmental factors that are necessary for germination.
12. Describe **two** techniques of artificial vegetative propagation that are used for flowering plants.
13. From what part of the embryo plant within the seed does the root develop?
14. In which part of the flower is pollen produced?
15. Name a part of a flower that may develop into a fruit.
16. What happens to the two polar nuclei in the carpel?
17. In which part of a flower does a seed form?
18. Some flowers have nectaries. How are these flowers pollinated? Explain your answer.
19. Explain what is meant by pollination.
20. Name a part of a flower from which a fruit develops.
21. What is meant by germination?
22. In each of the following cases give **one** example of a plant that uses the stated method of seed dispersal:
  1. Wind;
  2. Animal.
23. What is the difference between self-pollination and cross-pollination?
24. List **three** factors that are essential for germination.
25. Why is it important for plants to disperse their seeds?

26. What is meant by the dormancy of seeds?
27. Name **two** ways in which cross-pollination happens.
28. Suggest an advantage of dormancy of seeds to a plant.
29. Suggest why cross-pollination is preferable to self-pollination.
30. What is meant by cross-pollination?
31. What is meant by the germination of a seed?
32. Name two methods of cross-pollination.
33. True or false. Light is essential for the germination of seeds.
34. State **one** reason why water is needed for germination
35. What is vegetative propagation?
36. Artificial propagation is widely used in horticulture. Give **two** examples of artificial propagation.
37. True or False. Endosperm is a food reserve in some seeds.
38. Suggest **one** advantage and **one** disadvantage of artificial propagation.
39. State a role for each of the following: sepal, anther, stigma, ovary.
40. The two male gametes in the pollen tube are derived from the generative nucleus. Do these gametes form as a result of mitosis or meiosis? Explain your answer.
41. Distinguish between pollination and fertilization.
42. State **one** method that is used to produce seedless fruits.
43. Give **one** location in a seed in which food is stored. Name a carbohydrate that you would expect to be present in this food store.
44. In which part of the flower is pollen produced?
45. Give **two** ways in which pollen may be transported to another flower.
46. What forms in the carpel after pollination and fertilization?
47. From what structure in the carpel does the seed develop?
48. State **two** locations in the seed where food may be stored.
49. The embryo plant within the seed has a number of parts. List **two** of these parts, apart from food stores, and give a role for each of them.
50. Following dispersal, the seed undergoes a period of dormancy. What is dormancy? Suggest **two** advantages of dormancy.
51. What is the role of the fruit?
52. Distinguish clearly between pollination and fertilisation.
53. State **three** factors necessary for the germination of a seed.
54. What is germination?

55. State a location in the seed where food is stored.
56. What is meant by the germination of seeds?
57. Seeds may remain inactive for a period before germination. What term is used to describe this period of inactivity?
58. In which part of the flower is pollen produced?
59. List **three** characteristics in each case of;
  1. An insect-pollinated flower,
  2. A wind-pollinated flower.
60. What process follows pollination in the life cycle of a flowering plant?
61. From which structure in the seed does the root develop?
62. What is meant by *germination*?
63. Why is digestion necessary in a germinating seed?
64. What is meant by *vegetative propagation*?
65. Horticulturists use a number of methods to artificially propagate plants. Suggest **one** advantage of artificial propagation.
66. Describe **two** methods used by horticulturists to artificially propagate plants.
67. Give **two** differences between vegetative propagation and propagation involving seeds.
68. Seeds and fruits need to be dispersed. Give:1. **Two** methods of dispersal, 2. **Two** advantages of dispersal to the plant.
69. Why does digestion occur in seeds during germination?
70. Name a part of the flower from which fruit forms.
71. Give **three** examples of the ways in which fruits are involved in seed dispersal.
72. Suggest why it is necessary for a plant to disperse its seeds.
73. Following dispersal most seeds enter a period of *dormancy*. What is *dormancy*?
74. Give an advantage of dormancy.
75. Name the stage in the plant's life cycle that follows dormancy.
76. State **one** way in which it is possible to produce seedless fruits in horticulture.
77. What is meant by *fertilisation*?
78. Name the part of the flower in each case
  - a) Where fertilisation occurs
  - b) That becomes the fruit.
79. Each seed is made up of an embryo, a food store and a seed coat (testa). One function of fruit is to aid dispersal. Explain **each** of the underlined terms.
80. By which method are the seeds of the fruits of **blackberries** and **sycamore** dispersed?

81. What term is given to the growth of an embryo into a plant?
82. In order for germination to be successful, certain environmental conditions must be present.  
Name any **two** of these conditions.
83. What is meant by the *dormancy* of seeds?
84. Give **one** way in which the dormancy of seeds is of benefit to plants.
85. Suggest **one** way in which knowledge of dormancy is useful to farmers and gardeners.
86. Water, oxygen and a suitable temperature are all required for the germination of seeds. In the case of **each** of these factors describe its effect on the process of germination.
87. Which part of the embryo in a germinating seed gives rise to each of the following parts of the seedling? 1. The root 2. The shoot.
88. Describe the development of pollen grains from microspore mother cells.
89. What is meant by the term *fertilisation*?
90. Give a brief account of the process of fertilisation in flowering plants.
91. Give a role for **each** of the following parts of a flower: **sepals**, **anther** and **stigma**.
92. For what purpose in an experiment did you use an anaerobic jar?
93. Draw a large labelled diagram to show the internal structure of a flower.
94. Give **two** ways by which pollen is transferred from one flower to another.
95. After fertilisation, what part of the flower becomes the fruit?
96. Many seedless fruits, e.g. grapes, are available in shops today. State **one** way of forming seedless fruits.
97. Sometimes artificial methods are used to propagate (reproduce) plants. Name any **two** methods of artificially propagating plants.