

Advanced Horticulture Knowledge for Middle Schoolers

Horticulture · Answer Key · 20 Questions

1. Which plant hormone is primarily responsible for promoting fruit ripening and abscission (the shedding of leaves and fruits)?

- A) Auxin
- B) Gibberellin
- C) Cytokinin
- D) Ethylene**

2. The process by which plants absorb water and nutrients from the soil through their roots is called:

- A) Photosynthesis
- B) Transpiration
- C) Osmosis**
- D) Respiration

3. In plant propagation, a graft union refers to the point where:

- A) Two seeds are fused together
- B) A cutting develops roots
- C) The scion is joined to the rootstock**
- D) A flower bud forms on a stem

4. What is the term for a plant that completes its life cycle in two growing seasons, typically flowering and setting seed in the second year?

- A) Annual
- B) Perennial
- C) Biennial**
- D) Monocot

5. Which of the following soil amendments is primarily used to improve soil aeration and drainage, often found in potting mixes?

- A) Compost
- B) Peat moss
- C) Perlite**
- D) Manure

6. The characteristic 'veins' in a plant leaf, which transport water and nutrients, are called:

- A) Stomata
- B) Chlorophyll
- C) Vascular bundles (veins)**
- D) Cuticle

7. What essential macronutrient is crucial for nitrogen fixation in legumes and is a component of chlorophyll?

- A) Phosphorus (P)
- B) Potassium (K)
- C) Magnesium (Mg)**
- D) Calcium (Ca)

8. The scientific study of soil and its relationship to plant growth is known as:

- A) Agronomy
- B) Horticulture
- C) Pedology**
- D) Botany

9. Which type of pruning involves removing branches that cross or rub against each other to prevent disease and damage?

- A) Heading back
- B) Thinning out
- C) Crossing branch removal**
- D) Renewal pruning

10. What is the primary function of the endosperm in a seed?

- A) To protect the embryo
- B) To store food for the developing embryo**
- C) To facilitate seed germination
- D) To anchor the seedling

11. Asexual reproduction in plants, where a new plant grows from a vegetative part like a stem or leaf, is called:

- A) Fertilisation
- B) Pollination
- C) Vegetative propagation**
- D) Syngamy

12. The process where plants release water vapor into the atmosphere through tiny pores in their leaves is known as:

- A) Absorption
- B) Condensation
- C) Evaporation
- D) Transpiration**

13. In gardening, 'loamy' soil is generally considered ideal because it possesses a balanced mix of:

- A) Sand, silt, and clay**
- B) Peat moss and compost
- C) Gravel and organic matter
- D) Clay and humus

14. Which part of a plant is responsible for the process of photosynthesis, where light energy is converted into chemical energy?

- A) Roots
- B) Stem
- C) Leaves (specifically chloroplasts)**
- D) Flower

15. What is the minimum pH range for most vegetables to efficiently absorb nutrients from the soil?

- A) 3.0 - 4.0
- B) 4.5 - 5.5
- C) 6.0 - 7.0**
- D) 7.5 - 8.5

16. The development of a flower in response to day length is called:

- A) Vernalisation
- B) Phototropism
- C) Photoperiodism**
- D) Geotropism

17. Which common gardening tool is designed to loosen, aerate, and turn over soil in preparation for planting?

- A) Trowel
- B) Pruners
- C) Spade**
- D) Watering can

18. A plant that has seeds enclosed within a fruit is classified as a(n):

- A) Gymnosperm
- B) Angiosperm**
- C) Pteridophyte
- D) Bryophyte

19. The ability of a plant to withstand cold temperatures is known as:

- A) Drought tolerance
- B) Heat resistance
- C) Frost hardiness**
- D) Wind resistance

20. Which nutrient deficiency in plants often manifests as yellowing (chlorosis) of the older leaves, while the veins remain green?

- A) Phosphorus (P)
- B) Potassium (K)
- C) Nitrogen (N)**
- D) Iron (Fe)