

# Genetics and Alternation of Generations Quiz

**Part 1 – Multiple Choice:** Choose the best answer for each question.

- Genetics is the study of:
  - Rocks and minerals
  - Heredity and traits
  - Weather patterns
  - Energy and motion
- Traits are:
  - Types of plants
  - Characteristics passed from parents to offspring
  - A kind of habitat
  - Animal shelters
- Which structure carries genetic information?
  - Chloroplast
  - DNA
  - Roots
  - Stem
- A gene is:
  - A type of animal
  - A unit of heredity found on DNA
  - A plant organ
  - A weather system
- In plants, alternation of generations means:
  - Plants change colors every season
  - Plants alternate between two stages in their life cycle
  - Plants only reproduce once
  - Plants stop growing during winter
- The diploid stage of a plant life cycle is called the:
  - Gametophyte
  - Sporophyte
  - Seed coat
  - Pollen grain
- The haploid stage of a plant life cycle is called the:
  - Sporophyte
  - Fruit
  - Gametophyte
  - Embryo
- Which process produces gametes?
  - Photosynthesis
  - Respiration
  - Meiosis
  - Digestion
- Which of the following is an inherited trait?
  - Learning to swim
  - Hair color
  - Reading ability
  - Riding a bike
- The main purpose of alternation of generations is:
  - To help plants reproduce
  - To stop plant growth
  - To create weather changes
  - To increase sunlight

**Part 2 – Fill in the Blank**

**Word Bank**

Gametophyte

genes

sporophyte

DNA

Meiosis

traits

haploid

inherited

11. \_\_\_\_\_ carries genetic information in living organisms.
  12. \_\_\_\_\_ are units of heredity found on chromosomes.
  13. Eye color and freckles are examples of inherited \_\_\_\_\_.
  14. The \_\_\_\_\_ stage produces gametes in plants.
  15. The \_\_\_\_\_ stage produces spores in plants.
  16. \_\_\_\_\_ is the type of cell division that reduces chromosome number.
  17. Characteristics passed from parents to offspring are called \_\_\_\_\_ traits.
  18. A cell with one set of chromosomes is called \_\_\_\_\_.
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**Part 3 – True or False:** Write T or F for each statement.

19. \_\_\_\_ - Genetics is the study of heredity.
  20. \_\_\_\_ - Learned skills are inherited through DNA.
  21. \_\_\_\_ - The gametophyte stage is haploid.
  22. \_\_\_\_ - Alternation of generations occurs in many plants.
  23. \_\_\_\_ - Meiosis produces cells with fewer chromosomes.
  24. \_\_\_\_ - DNA stands for Deoxyribonucleic Acid.
  25. \_\_\_\_ - The sporophyte stage is diploid.
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