

Quiz questions – Inheritance and Selection

- Which part of a cell carries the information that is passed from one generation to the next?
 - Cell
 - Nucleus
 - Cytoplasm
 - Chloroplast

B. Nucleus
- Which of these carries the thousands of genes needed to allow animal and plant cells to pass on inherited characteristics?
 - Chromosomes
 - Chromatogram
 - Chromatography
 - Chromium

A. Chromosomes
- Why are identical twins different from non-identical twins?
 - They look the same
 - They look different
 - They have the same genes
 - They have the same eggs

C. They have the same genes
- Which of the following is the word used to describe what happens when the nucleus of a sperm joins with the nucleus of an egg cell?
 - Sex
 - Fertilisation
 - Intercourse
 - Reproduction

B. Fertilisation
- Which of the following statements is true about the variation?
 - Variation is caused by genes
 - Variation is caused by the environment
 - Variation can be caused by both genes and the environment
 - None of the above

A. Variation can be caused by both genes and the environment

6. What do we call the process of choosing parent organisms for the characteristics that we want in their offspring?
- A. Active selection
 - B. Reproductive selection
 - C. Selective breeding
 - D. Breeding selection
- C. Selective breeding
7. Which of the following best describes 'artificial insemination'?
- A. Transplanting an embryo into the uterus
 - B. Fertilisation of an egg in a test tube
 - C. Selectively breeding healthy animals
 - D. Taking the sperm from the a bull and placing it directly into a cow's uterus
- D. Taking the sperm from a bull and placing it directly into a cow's uterus
8. There are two types of variation. These are **continuous** and **discontinuous** variation. Which of the following statements is false?
- A. Continuous variation produces a spread of variation within a population
 - B. Discontinuous variation is the result of genetics alone
 - C. Blood group is an example of discontinuous variation
 - D. Discontinuous variation is influenced by the environment
- D. Discontinuous variation is influenced by the environment
9. Some types of variation are due to changes in the genetic material. What is this type of change called?
- A. Fertilisation
 - B. Mutation
 - C. Radiation
 - D. Sterilisation
- B. Mutation
10. Which part of a plant contains the male sex cell?
- A. Ova
 - B. Style
 - C. Stamen
 - D. Pollen
- D. Pollen

11. Pollination is the process by which plants transfer male sex cells from one plant to another. How does the nucleus of the male cell reach the female cell?
- A. It travels on the legs of bees and sticks to the egg cell
 - B. The pollen grain grows a pollen tube and the nucleus travels down the pollen tube to reach the egg cell
 - C. It blows in the wind
 - D. None of the above.
- B. The pollen grain grows a pollen tube and the nucleus travels down the pollen tube to reach the egg cell
12. When farmers breed new plants they choose the pollen from one variety of plant and place it onto the stigma of another variety of plant. What do we call this type of plant breeding?
- A. Selective breeding
 - B. Pollination
 - C. Seed collection
 - D. Cuttings
- A. Selective breeding
13. Which of the following statements best describes a clone?
- A. An artificial life form
 - B. An offspring where all of the genetic material in every cell is identical to that of both parents
 - C. An offspring where all of the genetic material in every cell is identical to that of one of its parents
 - D. A type of sheep
- C. An offspring where all of the genetic material in every cell is identical to that of one of its parents
14. What do the initials G.M. stand for?
- A. Genetically Made
 - B. Genetically Modified
 - C. Greatly Modified
 - D. Giant Modification
- B. Genetically Modified
15. When a gardener takes a cutting from a plant he/she likes he has made a:
- A. Clone
 - B. Mutation
 - C. New species
 - D. New variety
- A. Clone

16. When two apparently identical plants are grown in identical conditions they do not grow the same. For example, one may be resistant to disease, whereas the other succumbs to the disease. Does this tell you whether or not they are clones?
- A. Yes, they must have different genes, because resistance to disease is genetic, so they cannot be clones
 - B. They could be clones as they look identical
 - C. No, because they look identical yet are different
 - D. None of the above
- A. Yes, they must have different genes, because resistance to disease is genetic, so they cannot be clones
17. Are twins clones?
- A. Yes, if they are identical
 - B. No
 - C. Sometimes
 - D. Yes, if they share a placenta
- A. Yes, if they are identical
18. Which of the following adaptations would it be desirable for a farmer to breed into a crop of wheat?
- A. Early ripening
 - B. Resistance to disease
 - C. Large ears
 - D. All of the above
- D. All of the above
19. Some people can roll their tongues whilst others cannot. What is this an example of?
- A. Genetically inherited characteristic
 - B. Variation
 - C. Adaptation
 - D. Specialisation
- A. Genetically inherited characteristic
20. Which type of variation can be presented as a line graph?
- A. Continuous
 - B. Genetic
 - C. Discontinuous
 - D. Adapted
- A. Continuous