

B1 - Genetic Variation and Evolution Quiz

1. Why are some people against using GM foods?

We are uncertain about their health effects.

2. How many chromosomes are there in sperm and egg cells?

23

3. Egg cells and sperm cells are called this.

Gametes

4. What does it mean to be in the same species?

To be able to breed together and produce fertile offspring.

5. Gardeners often grow new plants from cuttings instead of from seeds. Why?

Quicker, cheaper, more reliable

6. How are genes cut out of chromosomes?

With enzymes

7. How does sexual reproduction produce variation?

Gametes join so genetic material is mixed.

8. How do scientists produce genetically modified animals?

Genes of one animal/plant are removed using enzymes and transferred to embryo of second animal.

9. Give two differences between asexual reproduction and sexual reproduction.

Sexual involves fusing gametes, mixing of genetic material, two parents, results in variation, whereas asexual produces clones and only one parent is required as cells are split.

10. What is a clone?

Genetically identical organism.

11. What are the advantages of cloning?

Fast, economic, large number of identical offspring produced which have desired features.

12. What are the disadvantages of cloning?

May succumb to an unexpected disease and get wiped out, limits variation.

13. How does natural selection occur?

Due to gene mutations there is variation within a species. Those that are best adapted to their environment survive, breed and pass on their genes.

14. Why was Darwin's theory of evolution only gradually accepted?

His theory undermined the idea that God created all animals and plants; there was insufficient evidence at the time; the mechanisms of inheritance were not yet known.

15. What does the theory of evolution state?

Present day organisms have evolved from simpler earlier organisms over millions of years.

16. Explain how Jean-Baptiste Lamarck (1744–1829) accounted for the evolution of the long neck in giraffes.

Stretching of necks to reach food lengthened the neck and was passed on to offspring.