

## 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.*