

1. Instructions for how an organism develops are found in the ?.
2. ? are instructions for how a cell makes ?.
3. ? are sections of very long ? molecules that make up ? in the ? of cells.
4. ? cells have only a copy of one ? from each pair.
5. ? (and ?) in body cells are in pairs because they come from each ? sex cells.
6. ? in a pair carry the same ? in the same place, but that there are different versions of ? called ?.
7. A person may have two ? the same or two different ? for any ?.
8. Offspring may have some similarity to their parents but can differ from each other because of the combination of the mother's and father's ? in the fertilized ?.
9. Human males have sex chromosomes ?? and females have sex chromosomes ??.
10. A gene on the ? chromosome determines the sex of a human embryo. This gene is linked to the development of ? in males and ? in females.
11. Most characteristics are determined by ? genes working together, for example, ?.
12. Most characteristics are also affected by ? factors, for example, lifestyle factors contributing to disease such as ?.
13. A small number of disorders are caused by alleles of a ? gene, e.g. ? disorder and ? ?.
14. The symptoms of Huntington's disorder are a progressive loss of ? and ability to control ?.
15. The symptoms of cystic fibrosis are an increased risk of ? infections and poor ? due to thick, sticky ? in the organs.

16. A person with one ? allele will not show the characteristic, but is a ? and can pass the allele to their children.
17. The implications of testing adults and fetuses for alleles which cause genetic disease for example are:
  - Whether or not to have children at all.
  - Whether or not a pregnancy should be ?.
18. Testing embryos for embryo selection (preimplantation genetic diagnosis) means that some ? will be discarded.
19. The use of genetic testing by others could include genetic screening programmes, by employers and insurance companies.
20. Gene ? may make it possible to treat certain genetic diseases.
21. Bacteria, plants and some animals can reproduce ? to form ? (with identical genes to their parent).
22. Any differences between ? are likely to be due only to ? factors.
23. Clones of animals occur:
  - Naturally, when cells of an embryo separate (identical ?).
  - Artificially, when the nucleus from an adult body cell is transferred to an empty ? egg cell.
24. Embryonic stem cells are ? cells that can develop into any type of cell.
25. There is the potential to use ? cells to treat some illnesses.
26. The cells of multicellular organisms become ? during the early development of the organism and so stem cells may replace damaged specialised cells.