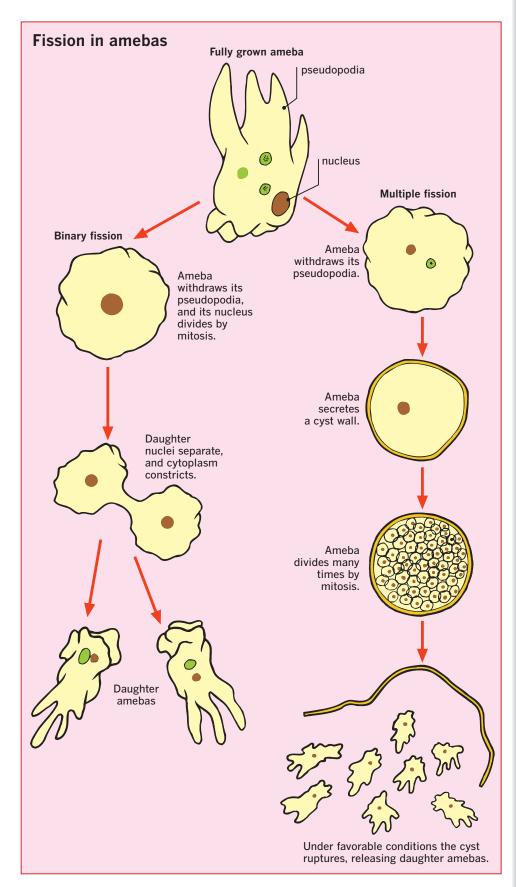
Asexual reproduction: fission



Key words

clone cyst fission mitosis pseudopodium

Two types of fission

- Fission is the splitting of a parent cell into a number of daughter cells. In binary fission two cells are produced. In multiple fission many more daughters are produced.
- The daughters produced by fission are genetically identical to the parent, i.e. they are *clones*.

Binary fission

- In *Amoeba proteus* (ameba), binary fission begins when the *pseudopodia* (false feet) are withdrawn to make a slightly more spherical shape.
- The nucleus divides by *mitosis* to produce two identical nuclei. These move to opposite ends of the cell.
- The ameba constricts around the middle and forms two daughter cells.

Multiple fission

- In multiple fission the ameba withdraws its pseudopodia to form a more spherical shape as in binary fission but then secretes a wall around the cell to form a *cyst*.
- The cyst can survive harsher conditions than the normal ameba cell.
- Inside the cyst the ameba divides multiple times by mitosis to produce many small daughter cells. These daughters are released when the cyst wall breaks.