

# 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- In *Amoeba proteus* (ameba), binary fission begins when the *pseudopodia* (false feet) are withdrawn to make a slightly more spherical shape.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.

## Fission in amebas

