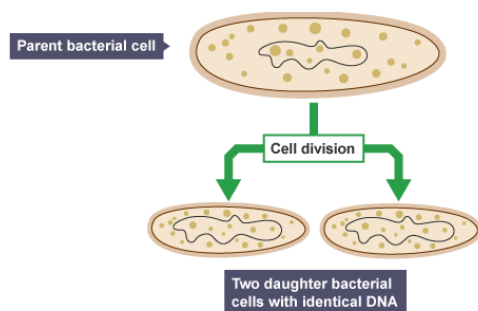


Asexual Reproduction

Organisms reproduce to pass on their genes and create new members of their species. If the organisms of a species all fail to reproduce then the species may become extinct.

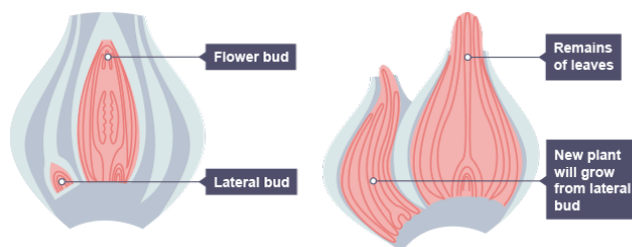
Asexual reproduction does not involve sex cells or fertilisation. Only one parent is required, unlike sexual reproduction which needs two parents. Since there is only one parent, there is no fusion of gametes and no mixing of genetic information. As a result, the offspring are genetically identical to the parent and to each other. They are clones.

Bacteria reproduce asexually.



Plants

Asexual reproduction in plants can take a number of forms. Many plants develop underground food storage organs that later develop into the following year's plants. Potatoes and daffodils are both examples of plants which do this.



Since there is only one parent involved in **asexual reproduction**, the offspring are genetically identical to the parent and to each other - they are clones.

Runners

Some plants naturally produce side branches with plantlets on them. The spider plant does this. Other plants, such as strawberries, produce **runners** with plantlets on them



Strawberry plant with runners - stems growing sideways

Artificial cloning in plants

Cloning plants has many important commercial implications - it allows a successful variety of a plant to be produced cheaply in a short space of time and on a massive scale.

Cuttings



Plant cuttings can be dipped in hormone rooting powder before planting

The simplest way to clone a plant is to take a **cutting**:

1. cut off a branch from the parent plant
2. remove the lower leaves and plant the stem in damp compost
3. plant hormones in rooting powder can be used to encourage new roots to develop
4. cover the cutting in a clear plastic bag to keep it moist and warm

After a few weeks, new roots develop and a new plant is produced.

Animals

Asexual reproduction in animals does occur in sea anemones and starfish, but it is much less common than sexual reproduction.