

Advantages and Disadvantages of Asexual and Sexual Reproduction

Advantages of Asexual Reproduction

- produces a new organism that is genetically identical to its parent
- it is not necessary to find a partner
- energy can be used to produce offspring
- offspring is usually well adapted to its environment because of the success of its parent

- an area favorable to the parent can quickly be colonized due to the high number of offspring the parent can generate in little time
- offspring are often already multicellular and more viable

Disadvantages of Asexual Reproduction

- does not give rise to genetic variability in organisms of a same species
- the species does not adapt at all or adapts very slowly when circumstances change
- there is only one parent to take care of offspring

- the parent sometimes disappears because its body no longer exists (fission)
- an asexual species runs the risk of suddenly disappearing because of a catastrophe that affects all organisms of the species that are genetically identical

Advantages of Sexual Reproduction

- produces a new organism that results from a combination of traits of two parents
- increases the genetic variability in organisms of the same species and even within the offspring of one couple
- in the long run, allows the best adaptations to be widespread within a species, especially in changing circumstances

- the variability of organisms within a species guarantees that a higher proportion will survive in perilous circumstances
- two parents can watch over offspring

Disadvantages of Sexual Reproduction

- finding a reproductive partner and producing gametes demands the output of a lot of energy
- mechanisms for the transportation of gametes for fertilization, for the attraction of the opposite sex, and for competition within a species must be put in place
- not only do you need two gametes for fertilization, one has to be male, the other female

- the genetic results of meiosis, and often of fertilization, are unpredictable
- genetic “errors” happen more frequently because meiosis is more complex than mitosis and diploid organisms have more chromosomes to double
- offspring are not necessarily as well adapted to their environment as the parents
- many organisms never become parents because they can't find a partner; many gametes are lost, because they aren't fertilized