**Sexual and Asexual Reproduction**

 Article #2

Reproduction is extremely important for the survival and evolution of a species. Without reproduction life would become extinct! Through reproduction, an individual passes on its genes to the next generation.

**Sexual Reproduction**

Most species reproduce sexually in male and female pairs. Each parent in a sexually reproducing pair passes on half of its genes to its offspring. The mix of genes that results makes each new generation (the offspring) different from the previous generation (the parents).

This genetic variation, or difference

between the generations, provides a very important advantage to sexually reproducing organisms: the ability to adapt more quickly to changing conditions in their environment. The better adapted

individuals live long enough to reproduce sexually and pass on more of their genes to the next generation. Thus, they have a

greater influence on the genetic makeup of the entire species. This process is known as natural selection.

**Asexual Reproduction**

Relatively few species reproduce asexually, or in a way that does not involve male and female partners. In contrast to sexual reproducers, every organism that reproduces asexually passes on its entire set of genes to the next generation. These species have a few distinct advantages over those that mate in pairs. Since it does not need a partner, a lone individual can establish a new population in a new territory also using less energy.

However, in populations created by asexual reproduction, no individual has much of a survival or reproductive advantage over any other individual. This is because

they are all so genetically identical. It also means that it will take much longer for these populations to evolve in response to change going on in their environment, which makes them especially vulnerable to diseases or other natural disasters that can wipe them out causing them to become extinct.

**Glossary**

**genetic variation:** genetic diversity in a species or group as a result of new gene combinations produced during reproduction

**natural selection:** the survival and successful reproduction of the organisms that are best suited to their environment; the process that drives evolution

**population:** a group of organisms of the same species that live in the same area or

habitat.

**Sexual Vs. Asexual Reproduction**

**Article #1**

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Organisms reproduce either asexually or sexually. Asexual reproduction is done by one organism either cloning itself or otherwise splitting. Sexual reproduction requires two organisms combining their genetic material. In some cases, a species is capable of either variation, depending on its living conditions.

1. **Asexual Reproduction in Plants**
	* Asexual reproduction is more common in plants than [animals](http://www.ehow.com/pets-and-animals/). It can be done by stems from the parent plant curling into the earth and becoming a new plant, or the roots sending up new stems that eventually become independent. Some plants also form tiny buds that eventually break off and become a new plant.

**Asexual Reproduction in Animals**

* + Animals that reproduce asexually do so by budding, **parthenogenesis** and fragmentation. Buds begin as a growth on the body of the parent organism that later detach and become independent. Parthenogenesis is the development of eggs without fertilization. It produces what is essentially a clone of the mother organism. In fragmentation, the creature spontaneously breaks into pieces that will each mature.

**Sexual Reproduction in Plants**

* + Flowering plants are the only type of plants that reproduce sexually. The mixing of gametes (male and female sex cells) is accomplished through pollination. Generally, this happens with the aid of insects transferring pollen between the flowers. Seeds develop from the fertilization (pollination) and grow into new plants if conditions are favorable.

**Sexual Reproduction in Animals**

* + Sexual reproduction in animals requires the depositing of sperm cells by the male into the eggs cell of the female. Half of the genetic information comes from the father and half from the mother. This produces offspring with genetic variation.

**Benefits and Costs**

* + Asexual reproduction is beneficial to the organism in that it does not need to find a mate. It also can help the organism avoid harmful mutations. It is quicker, requires less energy and produces larger populations. The main cost of asexual reproduction is little to no genetic variety in offspring. This is problematic if the environment changes. Without genetic variety organisms are less able to adapt and survive.