

PLANT REPRODUCTION - THEY'LL MAKE MORE

If you are an organism, you will need to **reproduce**. Otherwise, there will be no more of your species and the species will die off. You may have heard of endangered animals. There are also **endangered** plants. These endangered species have very few individuals left and scientists/naturalists are working together to make sure the species don't become extinct.

We talked a little about reproduction when we discussed meiosis in the cells tutorials. Reproduction is one of two things.

- (1) One cell can split into two, giving you two identical cells. That type is asexual reproduction.
- (2) The second type is when two cells, each with half of the DNA needed, combine and create a living cell. That type is sexual reproduction.

When plants hit a point in evolution, the second is the one that occurs more often.

CONIFERS AND THEIR CONES

While there are male and female mosses, conifers produce two types of **cones** on the same tree. One of the cone types gives off pollen (the **staminate** cone). The other type of cone catches the pollen if the wind is moving in the right direction. Better yet, the wind blows the pollen to another conifer of the same species, and a cone (called the **ovulate** cone) catches the pollen. Again, the pollen and megaspore (receiving haploid cell) are haploid and combine to form a diploid cell. That diploid cell grows into a zygote (baby conifer) that eventually lives in a seed.

FLOWERS AND POLLEN

The most advanced of the plants have their own way of sexually reproducing. It is a very fancy and very complex process. Plants that rely on **flowers** for reproduction are also very dependent on outside help such as insects and animals. While conifers have the two structures on one tree, flowering plants went one step further and put the devices that make and receive pollen in the same structure.

How does that help? A bee might go to one flower and get a little pollen on its back. If it goes to another flower of the same species, that **pollen** can land on the **stigma**. From that point, one haploid male nucleus combines with a female nucleus and the other haploid male nucleus combines with a polar nucleus. If successful, an embryo and **seed/fruit** develop respectively.

When you have half the number of chromosomes, you are called a haploid cell. **Haploid** means half the regular number. **Diploid** is the opposite (two strands). Normal cells are considered to be diploid cells.