Sexual Reproduction in Plants

In sexual reproduction, a new individual is produced by the combining of material from two parents. In plants, as in animals, a **sperm** moves towards an **egg**. **Fertilization** occurs when the egg and sperm nuclei (the central part of each cell) unite to start development of the offspring. By repeated cell division, the fertilized egg grows from a single cell into a many-celled **embryo** (a tiny new plant that develops into a seed). All living things that reproduce sexually take some features from each parent. Next year's flowers will resemble this year's flowers because they inherit features from both of their parents.

The **flower** is the structure that makes **sexual reproduction** in flowering plants possible. A wide variety exists in flower appearance, but the function of the flower parts is the same. Their functions are listed below.

- The **stamen** – contains the male part of the flower. It produces **pollen**, a yellow powdery substance. Pollen is produced in the top of the stamen, in a structure called the **anther**.
- The **pistil** – contains the female part of the flower. The top of the pistil is called the **stigma**. When a pollen grain reaches the pistil, it sticks to the surface of the stigma. The stigma produces a sugar that is used by the pollen to grow a tube. The **pollen tube** "digs" its way down through the style, allowing delivery of the sperm down to the **ovary**. This is the enlarged part of the pistil where the female sex cells (eggs) are produced. The eggs are fertilized by the sperm from the pollen tube. The transfer of the pollen from anther to the stigma is called **pollination**. If allowed to develop without being picked, the ovary dries and splits open to disperse the seeds(s).
- The **petals** – of the flower attract insects that carry the pollen from one plant to another. Some plants have no petals and the pollen is carried by the wind. Can you think of any other ways pollen could be transferred from plant to plant?