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| **Parts of the Flower:** The angiosperms are seed-bearing plants that produce flowers. The seeds, which contain the plant embryo, are produced in the flower. All the parts of a flower are actually modified leaves that are specialized for their roles in the reproductive process. Flower parts are arranged in circles called whorls. They are attached at the enlarged base of the flower, the **receptacle**.The **sepals** form the outermost whorl of the flower. The sepals are leaf-like structures that are usually green in color. Sometimes, the sepals are the same color as the petals, or appear to be another set of petals of a different color. The function of the sepals is to protect the inner part of the flower before it blossoms.The color and odor of the **petals** help to attract birds and insects to the flower for pollination. |
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| The **stamen** is the male reproductive organ and consists of two parts: the anther and the filament. The **anther** is the enlarged structure at the top of the stamen. Inside the anther are **pollen sacs**. Special cells within the pollen sacs undergo meiosis to form **pollen grains**. When the pollen grains mature, the pollen sacs split open to release the dust-like **pollen**. The **filament** is a thin stalk that supports the anther.The **pistil** is the female reproductive organ and consists of three parts: the stigma, style, and ovary. The **stigma** is an enlarged portion at the top of the pistil that becomes moist and sticky when mature. The **style** is the middle portion of the pistil. It can be long and slender, short, or even absent, depending upon the species. The **ovary** is the enlarged structure at the bottom of the pistil. The ovary contains one or more hollow compartments called **locules**. Each locule contains one or more **ovules**. Special cells within the ovule undergo meiosis to form **ova (eggs).****Pollination** occurs when pollen grains land on the sticky surface of the stigma and are trapped there. The pollen grain germinates and a **pollen tube** emerges from the grain. It releases special enzymes that digest a cell the wall on the surface of the stigma. The pollen tube grows down through the style to the ovary and enters the ovule, making a continuous passageway for the two sperm nuclei to enter the ovum. **Fertilization** occurs when the sperm nuclei join the egg nuclei.The fertilized egg becomes an **embryo**. The wall of the ovule thickens and forms a **seed**, thus enclosing and protecting the embryo. The ovary wall also thickens and develops into a **fruit**. In some plants such as apples, the ovary walls become fleshy and contain stored sugars and starches. In other plants such as walnuts, the ovary walls become dry and hard. |

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