What are the functions of the parts of a flower?

Angiosperms are flowering plants in which the seeds are enclosed in a fruit. Angiosperms are the most common plants on Earth. They are important to all life because they form the basis for the diets of most animals.

Flowers are complex structures made up of many parts. Some parts are involved in fertilization and seed production; other parts are involved in pollination. Flowers come in many different shapes, sizes, colors, and configurations, but all share a simple, basic structure made up of four kinds of organs: sepals, petals, stamens (male reproductive organs) and pistils (female reproductive organs).

Pollination is the process of transferring pollen trains from the stamen to the stigma. Pollen can be carried by wind or by animals such as beetles, butterflies moths, bees, flies hummingbirds, and bats that feed on a flower’s nectar and transfer pollen grains from the stamen to the stigma. Some flowers have more than one ovule. Pollination of these flowers requires that a least one pollen grain must land on the stigma for each ovule contained in the ovary.

Fertilization follows pollination. It results in an ovule forming an embryo and endosperm. The endosperm is a food-storage tissue that supports development of the embryo.

After fertilization takes place, most of the flower parts die and the seed begins to develop. The ovule hardens and becomes the seed, which helps protect the embryo until it begins growing into a new plant. Inside the ovule, the embryo grows. The ovary develops into a fruit. When the seed matures, it separates from the ovary and may be dispersed by animals or by the wind.

In this Virtual Lab, you will identify the parts of a flower and examine their roles in the processes of pollination and fertilization.

Objectives:

* Identify the main parts of a flower and the functions of each.
* Identify the overall function of flowers
* Describe the processes of pollination and fertilization in a flowering plant

Procedure: FIRST – prepare a data table like the one shown below…..

1. To select a blossom to investigate, click the Cherry Blossom or Orange Blossom button.
2. Click the Magnified Part up and down arrows to choose a flower part to identify.
3. Determine the name of the darker colored area on the selected flower part. Click the Name up and down arrows to select the name.
4. Determine the function of the selected flower part. Click the Description/Function up and down arrows, and select the description/function.
5. Move the cursor over the flower. Click the location where you think the selected part belongs.
   1. If the selected flower part’s name, description/function, and location on the flower are correct, the flower part will color in and its label will appear.
   2. If the selected flower part’s name, description/function, and/or location on the flower ae incorrect, reexamine your selections and try again.
6. When all parts of the flower have been correctly identified, click the labels to review information about each part. Record in the Table the description and function of each flower part.
7. Click the Show Fruit Development button to observe how the flower develops into a fruit.
8. Click the other blossom button and repeat the Virtual Lab.
9. Complete/Answer the questions.

Data Table: Functions of Each Part of a Flower

|  |  |  |
| --- | --- | --- |
| Name of Flower Part | Description | Function |
| Anther |  |  |
| Filament |  |  |
| Ovary |  |  |
| Ovule |  |  |
| Petals |  |  |
| Pistil |  |  |
| Sepals |  |  |
| Stamen |  |  |
| Stigma |  |  |
| Style |  |  |

Questions:

1. What is an angiosperm?
2. Define pollination.
3. Which parts of the flowers are important in pollination?
   1. Describe their role in the process.
4. List at least 5 animals that help with pollination.
5. Many types of flowers produce fruits that are fragrant and sweet tasting. Describe how these characteristics of fruits may be important for dispersal.
6. Many types of flowers are brightly colored, fragrant, and produce sweet nectar. Describe how these characteristics affect the process of pollination.
7. What is the male part of a flower called?
8. What is the female part of a flower called?
9. Most species of plants produce flowers containing both stamen and pistils. Why is producing flowers with both male and female reproductive structures an advantage for the plant?
10. What is an endosperm?
11. What does an ovary develop into?
12. Which part of the flowers is involved in fertilization and fruit development?