

SECTION 9-3

SECTION SUMMARY

Angiosperms

Guide for Reading

- ◆ What characteristics do angiosperms share?
- ◆ How do angiosperms reproduce?

An **angiosperm** is a plant that produces seeds that are enclosed in a fruit. Seeds develop in a protective structure called an **ovary**. The ovary is located within an angiosperm's **flower**—the reproductive structure of an angiosperm. **Two characteristics of angiosperms are that they all produce flowers and fruits.**

Although all flowers have the same function—reproduction—not all flowers appear the same. Some flowers lack **petals**—the colorful structures that you see when flowers open. A flower bud is enclosed by leaflike structures called **sepals** that protect the developing flower. Within the petals are the flower's male and female reproductive parts. Thin stalks topped by small knobs inside the flower are **stamens**, the male reproductive parts. The thin stalk is called the filament. Pollen is produced in the knob, or anther, at the top of the stalk. The female parts, or **pistils**, are usually found in the center of the flower. The sticky tip of the pistil is called the stigma. A slender tube, called a style, connects the stigma to the ovary, a hollow structure at the base of the flower. The ovary contains one or more ovules.

For angiosperms to reproduce, **first, pollen falls on a stigma. In time, the sperm cell and egg cell join together in the flower's ovule. The zygote develops into the embryo part of the seed.** As the seed develops, the ovary changes and eventually becomes a **fruit**—a ripened ovary and other structures that enclose one or more seeds.

Angiosperms are divided into monocots and dicots. **Monocots** are angiosperms that have only one seed leaf. Grasses, including corn, wheat, and rice, and plants such as lilies and tulips, are monocots. Dicots produce seeds with two seed leaves. **Dicots** include plants such as roses, violets, and dandelions.

Angiosperms have many uses. People and many animals depend on various kinds of angiosperms for food. Fibers such as cotton and flax are used to make clothing. Angiosperms are used to make many medicines. These include digitalis, which is a heart medication, and cortisone, which is used to treat arthritis and other joint problems.