Pollination leads to fertilization. During fertilization, the male and female gametes combine. The male gamete is one of the spermatozoa in the pollen sac and the female gamete is one of the ovules in the ovary. Each gamete contains a single gene for each physical characteristic of the parent plant (*see page 240*). These two gametes fuse to form the first cell containing complete genetic material. This cell is called a **zygote.** Figure 32 illustrates the fertilization process of angiosperms.

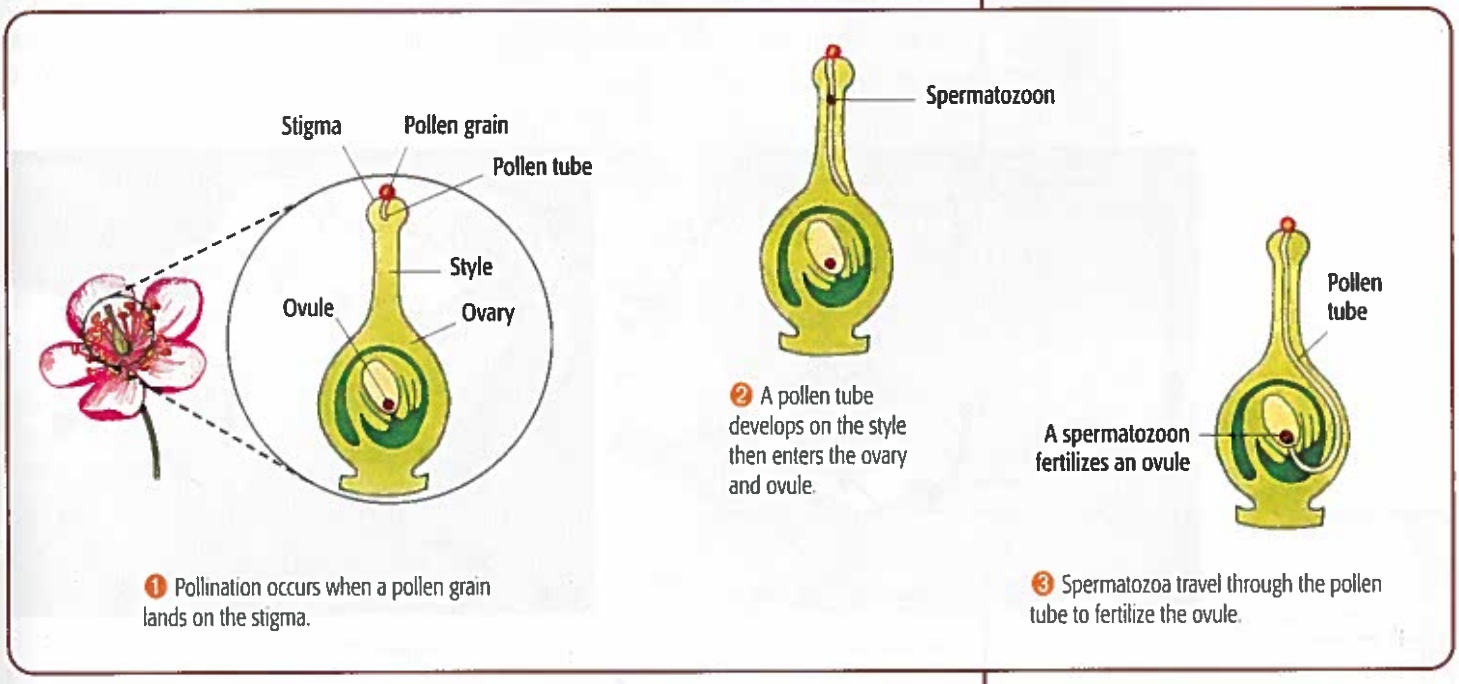

Figure 32 *Fertilization process of flowering plants*

Seed Development

When the male gamete (or spermatozoon) enters the ovule, a zygote is formed. This is the first stage of seed development.

This first cell divides many times to form more cells that eventually become specialized. Some play a role in embryo development. Some become food storage cells called cotyledons. Others form the protective envelope called the seed coat. Figure 33 shows all the parts of a seed.

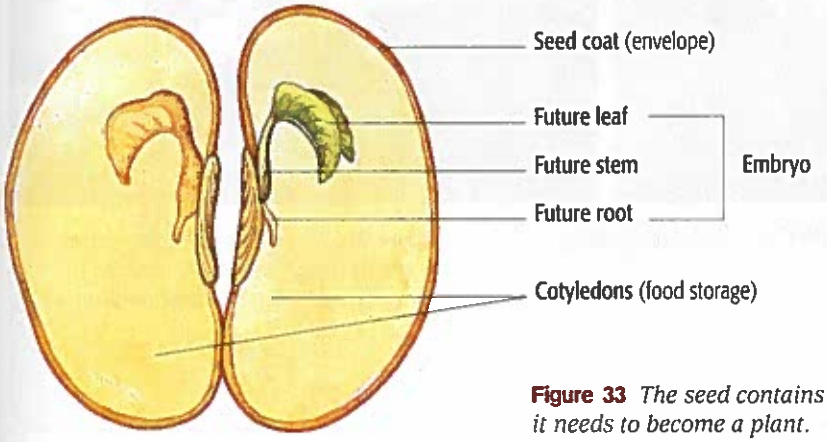

Figure 33 *The seed contains everything it needs to become a plant.*