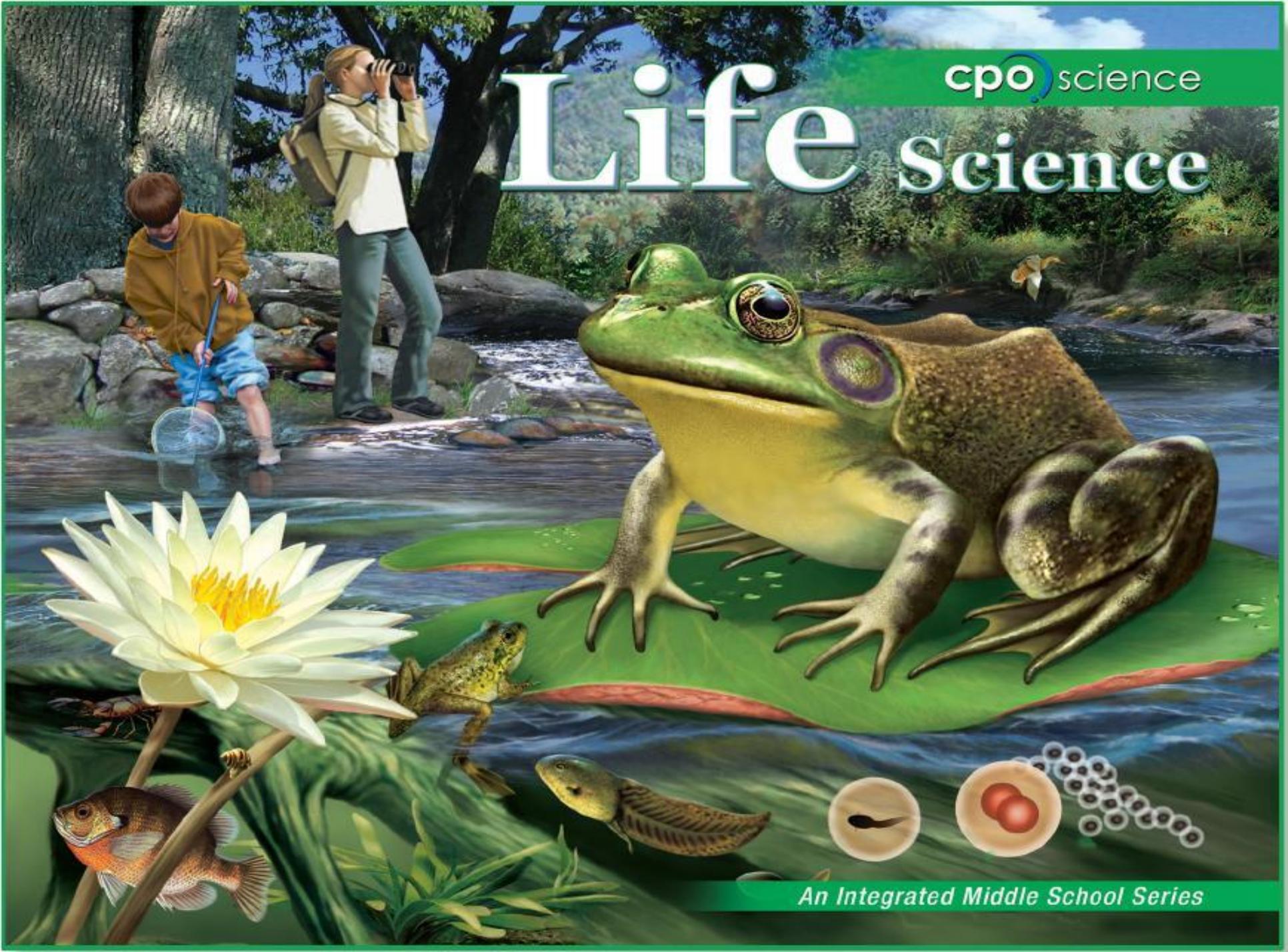


cpo science

# Life Science



An Integrated Middle School Series



UNIT  
**6**

# Structure and Function in Living Things

A collage of various scientific equipment and materials, including a microscope, a globe, a calendar, and various papers and charts, set against a blue background with a white arc at the bottom.

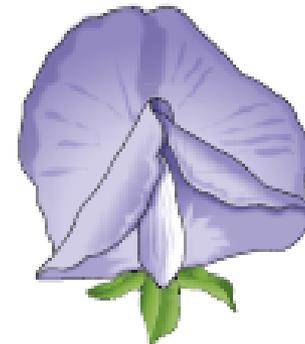
## **Chapter Sixteen: Plants**

- **16.1 What are Plants?**
- **16.2 Roots, Stems, and Leaves**
- **16.3 Reproduction in Flowering  
Plants**

# Investigation 16B

## Flower Dissection

- *How does the design of flower help in its pollination?*



**Angiosperms**

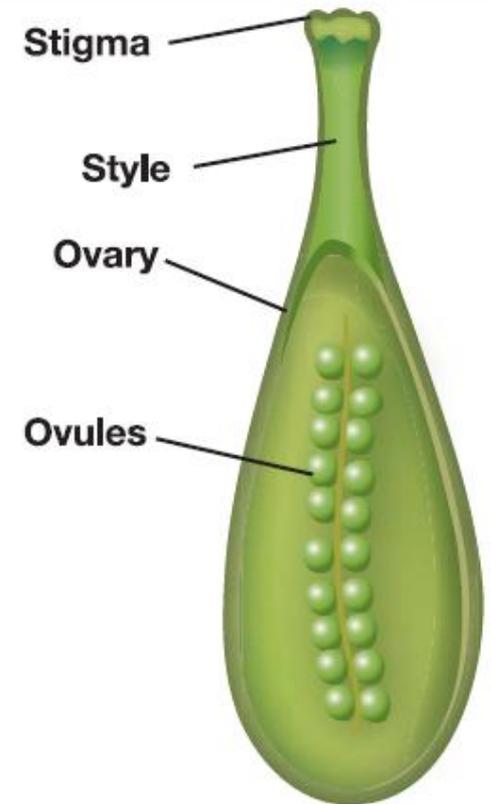
## 16.3 Reproduction of flowering plants

- A **flower** is the reproductive organ of angiosperms.
- Flowering plants reproduce by **pollination**.

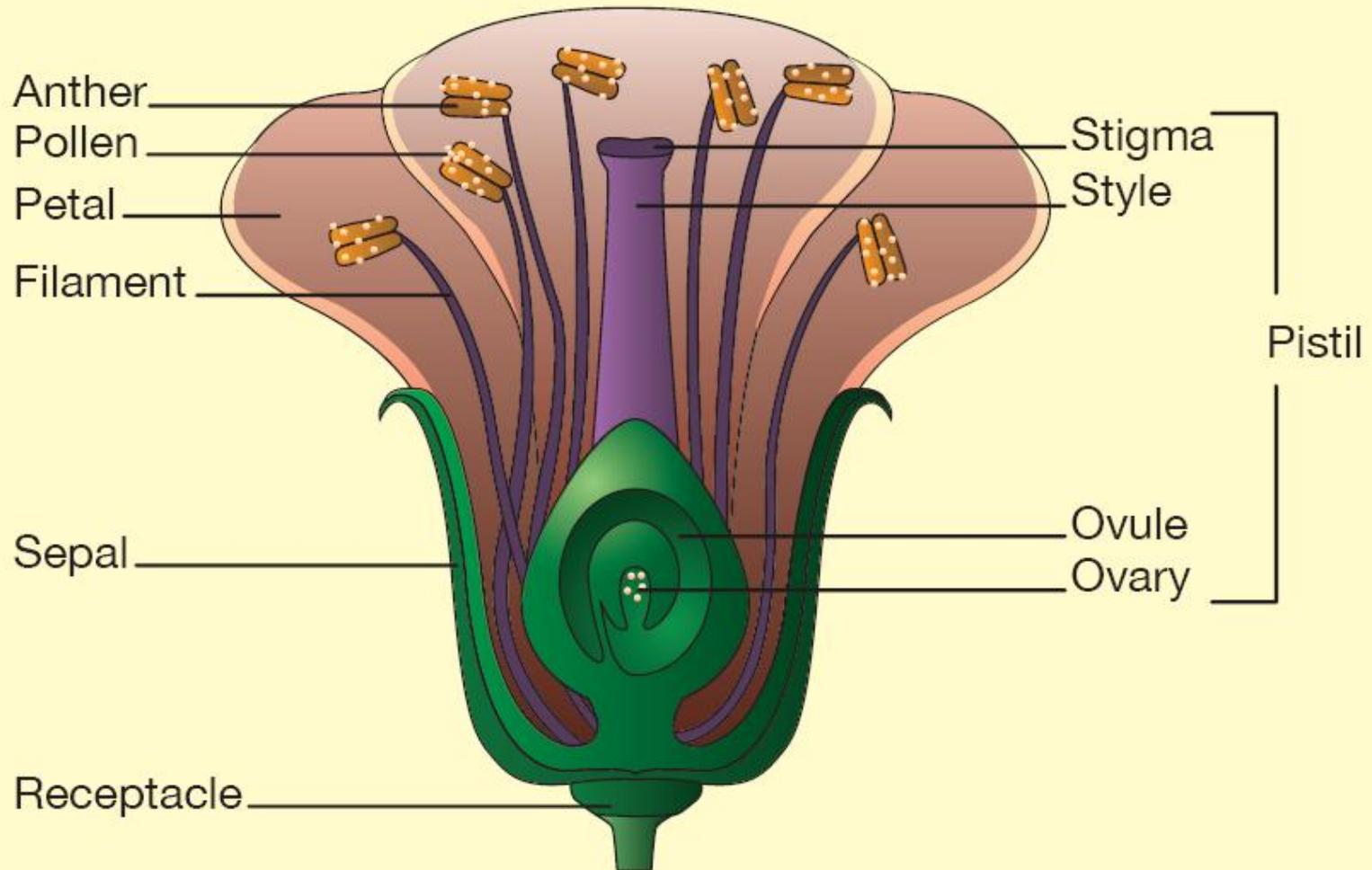


## 16.3 Flower structure and function

- Flowers are used by plants for one purpose: sexual reproduction.
- The flower parts are usually arranged in a ring around the female parts of the flower, called the pistil.

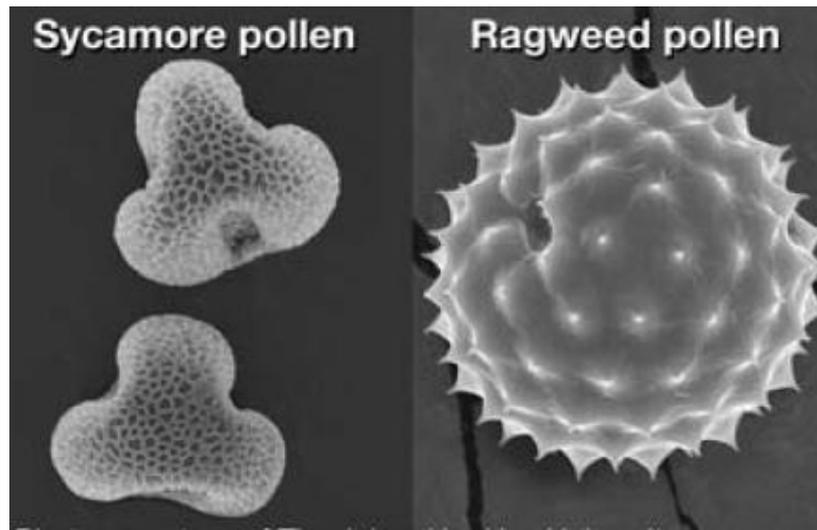


# Flower Parts



## 16.3 Flower structure and function

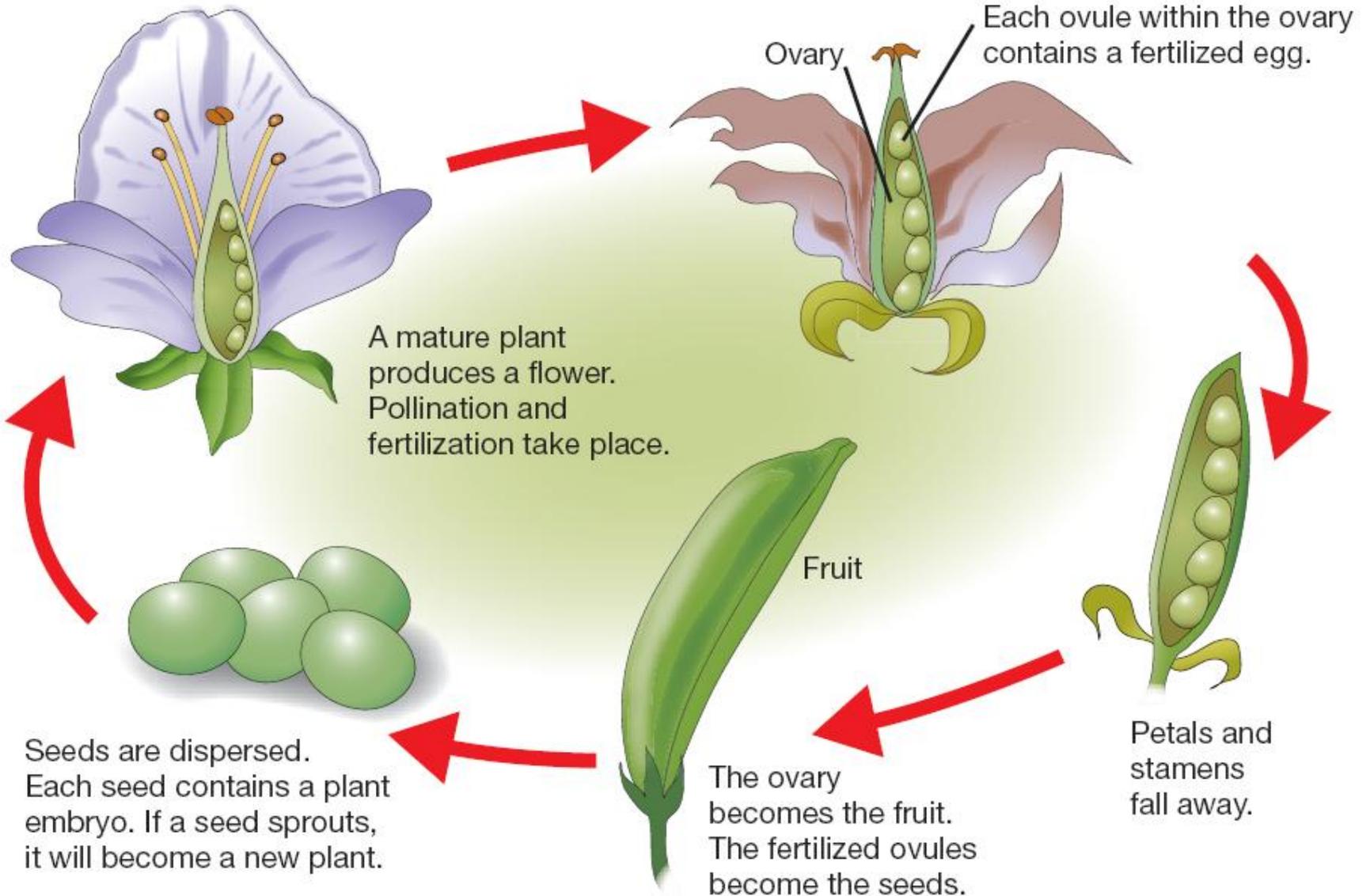
- The male part of the flower is called the **stamen**.
- The stamen consists of the anther, pollen, and filament.
- **Pollen** is the reproductive spore that contains sperm cells.



## 16.3 Reproduction in flowering plants

- Fertilization in flowering plants occurs through the process of pollination.
  1. After pollen grains land on the stigma, a *pollen tube* grows from the pollen grain, through the style, and into the ovary.
  2. After fertilization occurs, each ovule develops into a seed.
  3. Each seed contains a tiny, undeveloped plant called an embryo.

# Flower to Fruit

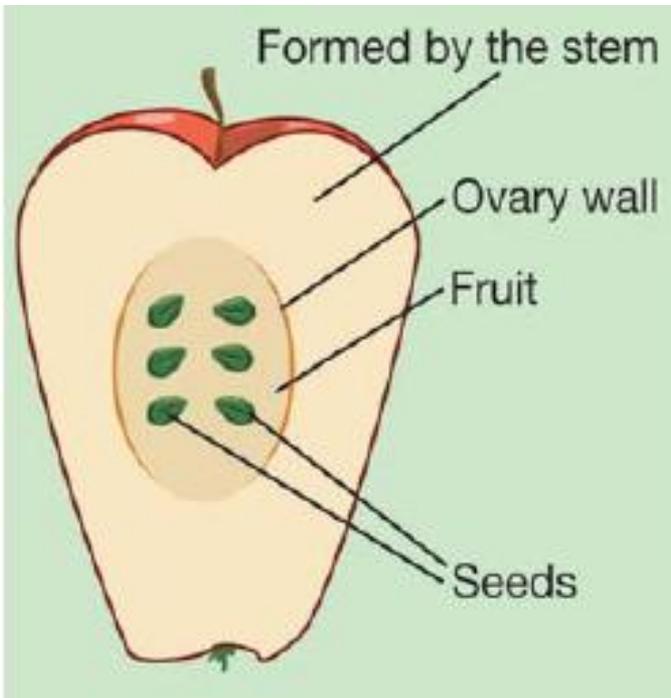


## 16.3 Fruits

- A **fruit** is defined as a ripened ovary that contains angiosperm seeds.
- The function of a fruit is to hold and protect the seeds.



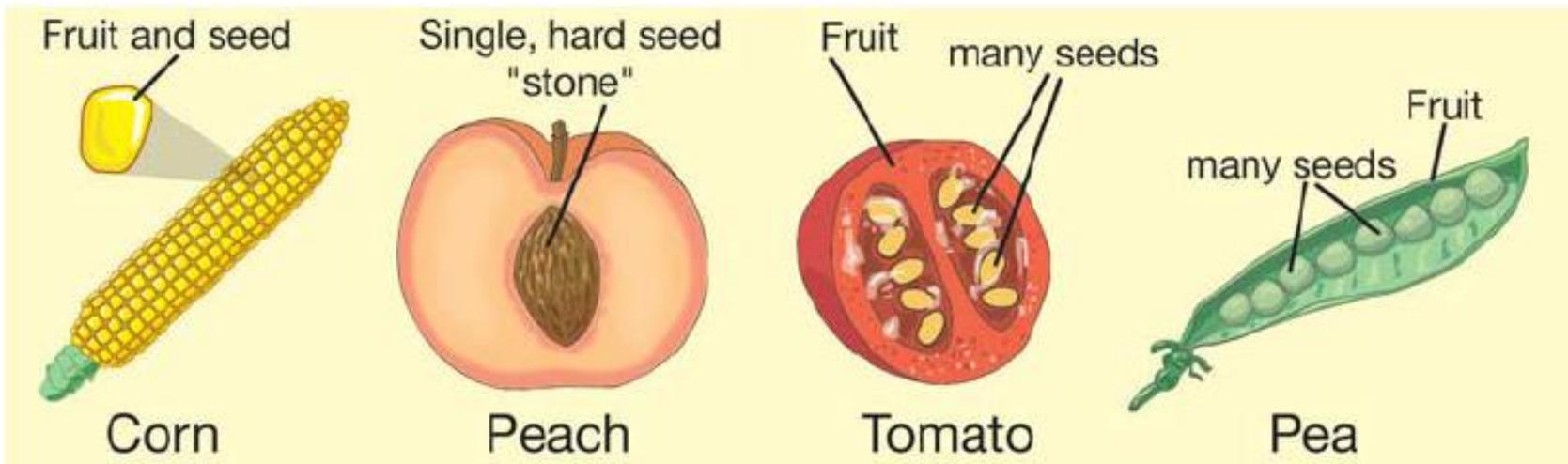
## 16.3 Fruits



- Most of the “fruit” of an apple is actually formed by the stem surrounding the ovary.
- If you slice an apple in half, you can see the boundary between the ovary wall and the stem.

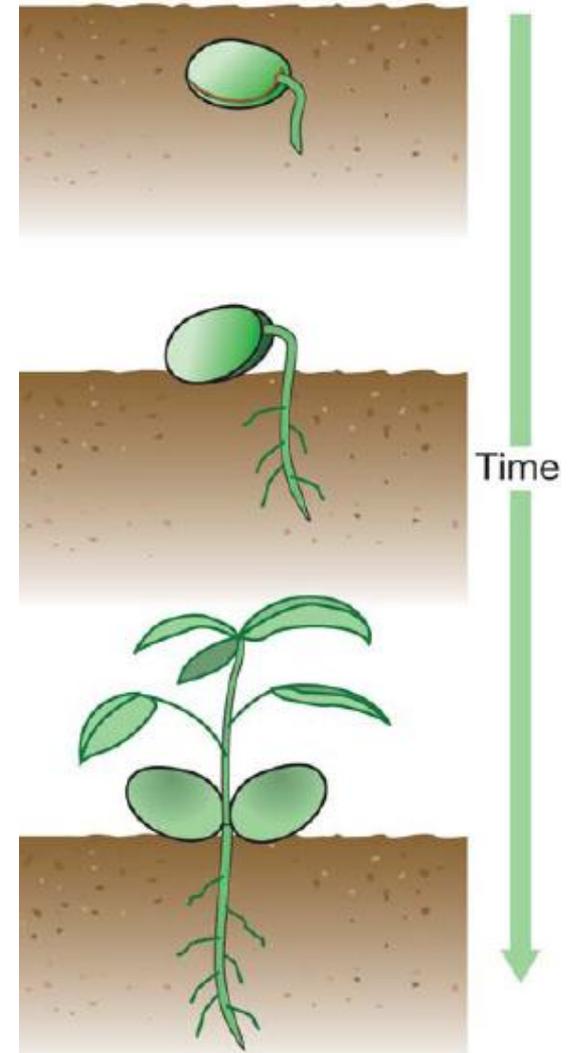
## 16.3 Fruits

- Each kernel of corn on a cob is actually an individual fruit!
- In peaches, the fruits are soft and fleshy and contain a single, stony seed.
- Legumes like beans and peas produce a fruit called a pod that contains many seeds.



## 16.3 Seeds and seed dispersal

- **Germination** is the process of a seed sprouting and its growth into a young plant.
- Forest fires for example, burn the seed coats of some plant species and allow them to *germinate*.





## 16.3 Seeds and seed dispersal

- Many seeds are dispersed directly into the air and rely on the wind to carry them.
- Maple trees have winged fruits that carry their seeds from the parent plant.



# Biology Connection

## The Buds and the Bees



- Apiarist is another word for “beekeeper” (*apis* is Latin for bee).
- There are an estimated 211,600 apiarists in the United States.

# Activity

## Design Your Own Pollinator

- In this activity, you will create an imaginary flower with certain characteristics to attract and an imaginary pollinator that you will also design.

