

## 24.2 Fruits and Seeds

### Lesson Objectives

-  Describe the development of seeds and fruits.
-  Explain how seeds are dispersed.
-  List the factors that influence the dormancy and germination of seeds.

### Lesson Summary

**Seed and Fruit Development** Seeds develop in the fruit of angiosperms.

- ▶ A seed protects and provides nourishment for a plant embryo.
- ▶ An ovary matures into a fruit as an embryo develops within each of its seeds. Some fruits are fleshy, and others are dry. Many foods are fruits.

**Seed Dispersal** Fruits are adaptations for seed dispersal that have been favored by natural selection.

- ▶ Animals disperse seeds for many plants that make edible fruits or fruits that cling to animal bodies.
- ▶ Wind and water disperse seeds for plants that make fruits with adaptations for gliding on the wind or floating on water.

**Seed Dormancy and Germination** Some seeds sprout right away, and others lie dormant for a period of time.

- ▶ In a period of **dormancy**, the embryo of a seed is alive but not growing.
- ▶ **Germination** is the resumption of growth by the embryo. Seeds absorb water before germinating. The water causes tissues in a seed to swell, causing the seed coat to crack. The embryonic root emerges first.
- ▶ Monocots and dicots have different patterns of germination.
- ▶ Dormancy helps the embryos in seeds survive until the environment is favorable for plant growth.

## Seed and Fruit Development

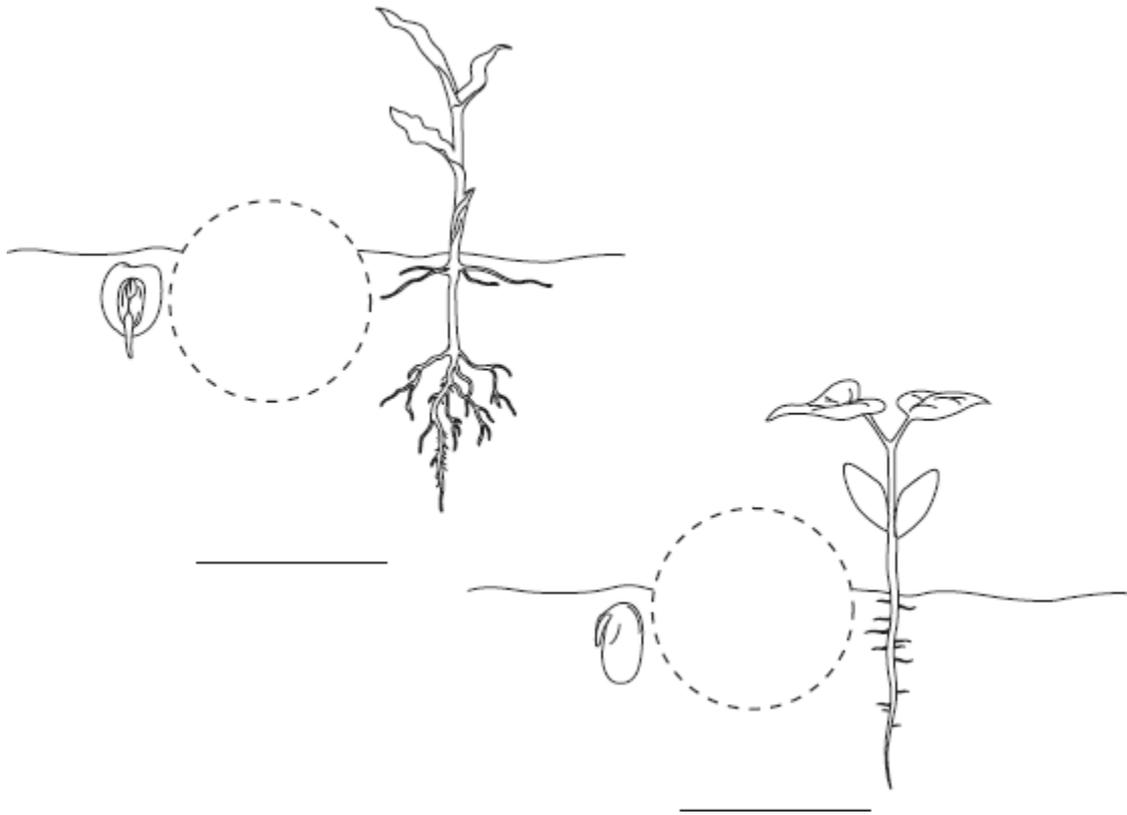
*For Questions 1–6, complete each statement by writing the correct word or words.*

1. The function of a seed is to nourish and \_\_\_\_\_ a plant embryo.
2. After fertilization, \_\_\_\_\_ flow into the flower to support the growing embryo.
3. A fruit is a matured \_\_\_\_\_ of a flower.
4. Fruits are adaptations for \_\_\_\_\_ seeds.
5. Peas, corn, green beans, tomatoes, and rice are all examples of the \_\_\_\_\_ of angiosperms.
6. In a peanut, the \_\_\_\_\_ is the fruit and the nut is the \_\_\_\_\_.



- \_\_\_\_\_ 16. The primary root is the first root of a new plant.
- \_\_\_\_\_ 17. Dormancy enables seeds to live under ideal growing conditions.
- \_\_\_\_\_ 18. The seeds of most plants in temperate regions germinate in the fall.
- \_\_\_\_\_ 19. For many seeds, a long period of cold is required before dormancy can end.
- \_\_\_\_\_ 20. The cones of some pine trees must be exposed to light in order to release their seeds.

21. **THINK VISUALLY** Complete the illustration comparing seed germination in corn (monocot) and a bean (dicot). Under each drawing, identify the kind of plant that is shown, and make a sketch of the missing stage for each in the appropriate circle.



**Apply the Big idea**

22. Lupines are flowering plants that make seeds with a thick, hard seed coat. Seeds collected from wild lupines are difficult to grow. What could be the cause of this difficulty? How might a hard seed coat be an adaptation that helps lupines survive?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_