Inside a Seed

- protective coating
- plant embryo
- stored nutrients

Life Cycle for Wisconsin Fast Plants (calendar on p. 8)

1. When will the cotyledons emerge? Answer: *day 2 or 3*
2. When will the true leaves emerge? Answer: *days 4,5, or 6*
3. When will the flower buds appear? Answer: *days 7, 8 or 9*
4. What are the days of the growth spurt? Answer: *days 10, 11, or 12*
5. When should pollination occur? Answer: *days 14 to 19*
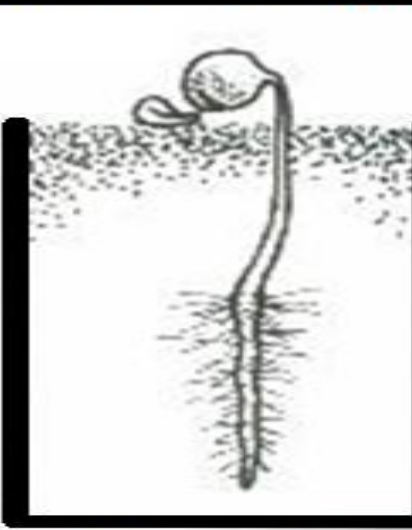6. When will the seed pods develop? Answer: *days 19 to 35*
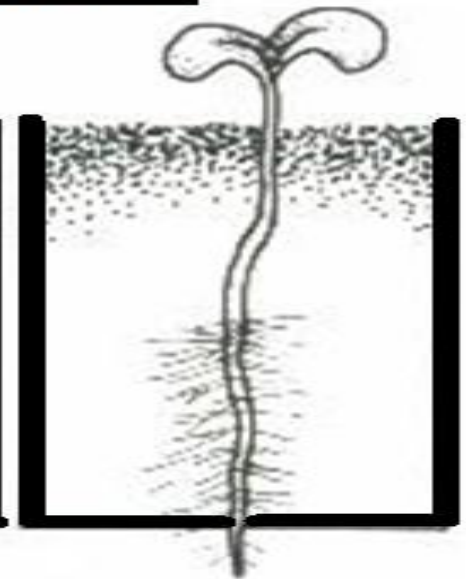
Figure 12-1 p. 57 How a Seed Germinates
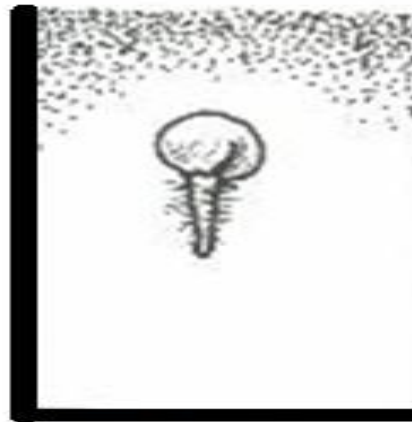
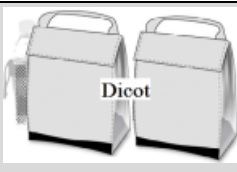A. The seed coat splits and the embryonic root or radicle, emerges.
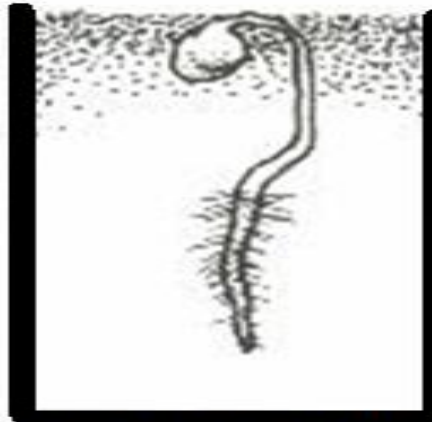
B. The radicle grows downward and develops root hairs.

C. The stem grows upward and pulls the cotyledons above the soil. The seed coat falls off.

D. The cotyledons open.

Monocot	**Dicot**	 **Examples** grass corn rice Lilies tulips hay roses dandelions maple trees oak trees
Fibrous roots (like our corn)	**One long tap root (like our lima bean)**	
vascular tissue arranged randomly without any shape (overused pin cushion)	**vascular tissue arranged in a circle (honeycomb shape) in the stem**	**Monocot-**A seed with one food storage area is called a *monocotyledon*, or *monocot*. • Flowers of monocots have either three petals or multiples of three. • The leaves of monocots are long and slender with veins that are parallel to each other. • The vascular tube structures are usually scattered randomly throughout the stem. • Examples-include grass, corn, rice, lilies, tulips and hay.
Parallel veins in long/slender leaves	**net-like veins in wider leaves**	
plant parts/flowers in groups of threes	**plant parts/flowers in groups of fours or fives**	**Dicot**-A seed with two food storage areas is called a *dicotyledon*, or *dicot*. • Flowers of dicots have either four or five petals or multiples of these numbers. • The leaves are usually wide with branching veins. • The vascular tube structures are arranged in circular bundles. • Examples- roses, dandelions, maple, and oak trees.

The diagram in the top right shows:

Monocots

Seed	Leaf	Stem	Flower
One cotyledon	Parallel veins	Scattered bundles of vascular tissue	Flower parts in threes

Dicots

Seed	Leaf	Stem	Flower
Two cotyledons	Branching veins	Circle of vascular tissue	Flower parts in fours or fives