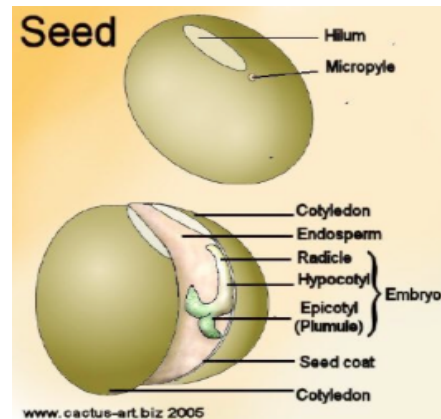
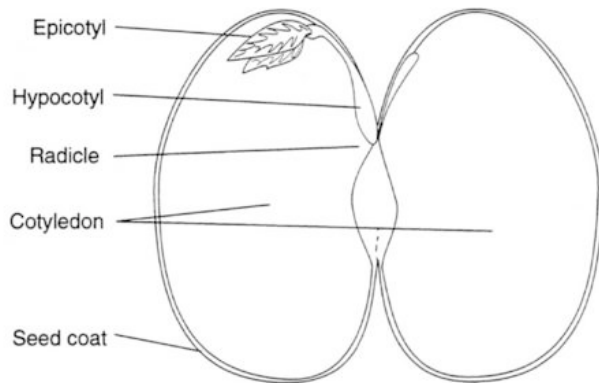


Seed Activity

Use the photocopies provided at the front and your textbook to answer the following questions.

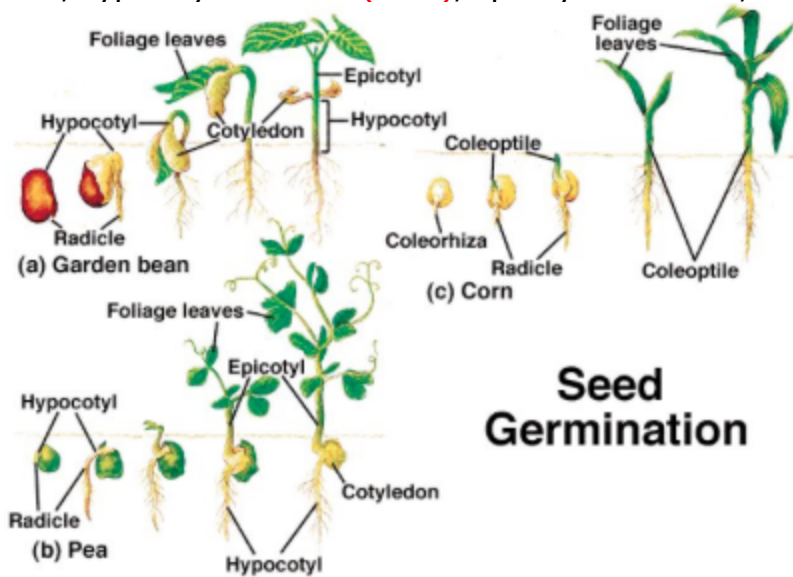
1. What is the function of the pollen tube? **Transports the sperm cells to the base of the pistil**
2. Draw a diagram of an open bean seed and label the hilum, cotyledon, hypocotyls, radicle, epicotyl, seed coat, and plumule.



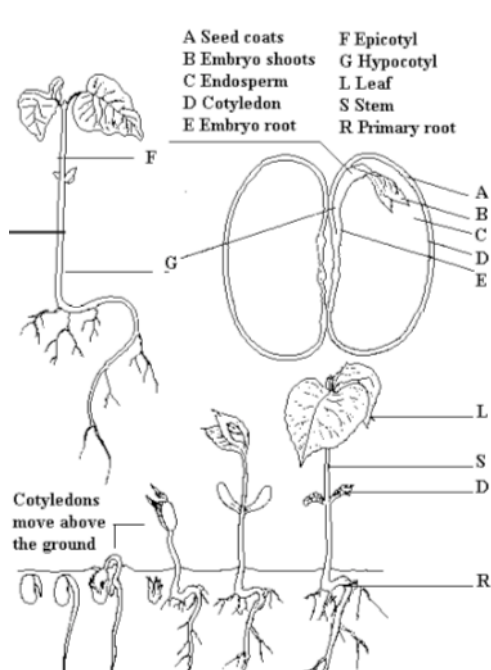
What part of the bean seed stores the food for the seed? **Endosperm**

How many cotyledons does the seed have? **2 seed leaves (cotyledons) as it is dicot**

3. Using a diagram of germination, identify the embryonic seed part that first grows out of the seed. What is it called? **Radicle** What do each embryonic part become? (radicle = **root**, hypocotyls = **shoot (stem)**, epicotyl = **leaf bud**, and plumules = **leaves**)



4. The cotyledons are carried up out of the ground as the stem grows. This is not the usual pattern of growth in seedlings. The cotyledons normally stay in the ground. What happened to the cotyledons as the seedlings continue to grow? **They get used up as a food source**
5. Draw a diagram of an open corn seed. Label the radicle, hypocotyl, epicotyl, and plumules.



What part of the corn seed stores the food for the seed? **Endosperm** The silk scar is the place where the pollen tube reached the ovule.

6. What are the similarities and differences between the corn and bean seeds?

Monocot (Corn)	Dicot (Bean)
- embryo with single cotyledon (seed leaf)	- embryo with 2 cotyledons
- flower parts in multiples of 3	- flower parts in multiples of 4 or 5
- major leaf veins are parallel	- major leaf veins reticulated from major ones
- secondary growth absent	- secondary growth often present
- roots develop by chance (not organized)	- roots develop from radicle (organized)

7. Discuss the relationship between the parts of the flowers, seeds, and fruit. What part of the flower becomes the seed? **Ovules** Fruit? **Ovary** Which seed is a monocot? **Crop plants (Corn, wheat, barley, rye)** Dicot? **Bean** Explain your answer. Why do seeds have a food source stored up? **Need stored nutrients (energy source) until they are able to photosynthesize** Where is located? **endosperm**