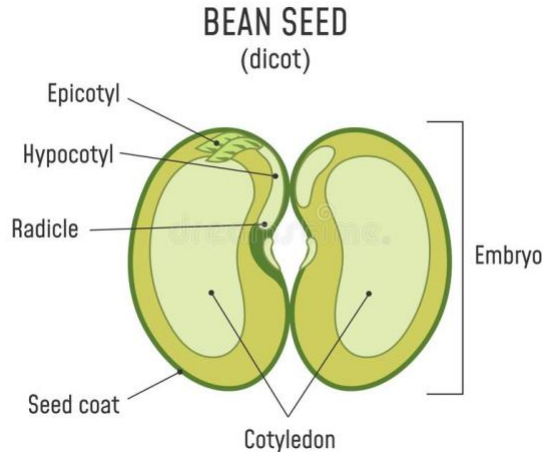


the cotyledons. The upper portion of this structure is the hypocotyl, which forms the stem of the plant. Observe the lower portion of the hypocotyl, which is called the radicle and forms the primary root. Locate the epicotyl, or small leaflike structure connected to the hypocotyl. The epicotyl forms the first leaves of the plant. In the appropriate place in Observations, label the COTYLEDONS, HYPOCOTYL, RADICLE, and EPICOTYL.



Part B: Examining Some Fruits

Examining a Peach

1. Using a knife, carefully cut the peach lengthwise. Do not cut into the pit.
2. Observe the ripened ovary wall, which is called the pericarp. The pericarp may be fleshy or dry, hard or soft. A pericarp is made up of three layers: the exocarp, or outer layer; the mesocarp, or middle layer; and the endocarp, or inner layer. Because the thickness and texture of these layers vary in different types of fruits, the variations are used to classify the different types of fruits. Examine Figure 1, which shows a stone fruit and its pericarp layers. A stone fruit is a type of fruit in which the endocarp is stony or hard. Find the parts labeled in Figure 1 in the peach

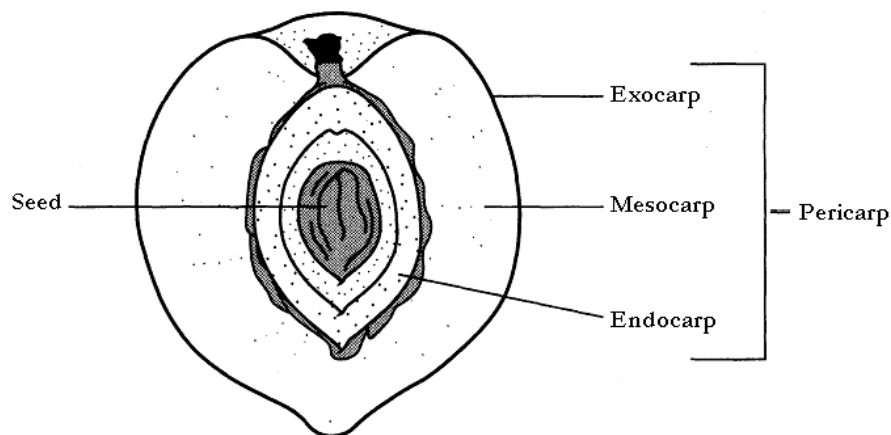


Figure 1

2. The peach develops from a single pistil so it is known as a simple fruit. A simple fruit in which all or most of the pericarp is fleshy is called a simple fleshy fruit.
3. Notice that the pericarp of the peach has three distinctly different layers. A simple fleshy fruit with a pericarp divided into three distinct layers is called a drupe.

Examining an Apple

1. Using a knife, cut through the center of the apple. The apple is an example of a pome. A pome is a simple fleshy fruit whose pericarp is surrounded by a fleshy, tasty floral tube. The floral tube is formed from the fused bases of the petals, sepals, and stamens.
2. Study Figure 2. In the appropriate place in observations sketch the cross section of the apple and label the FLORAL TUBE, EXOCARP, MESOCARP, and ENDOCARP.

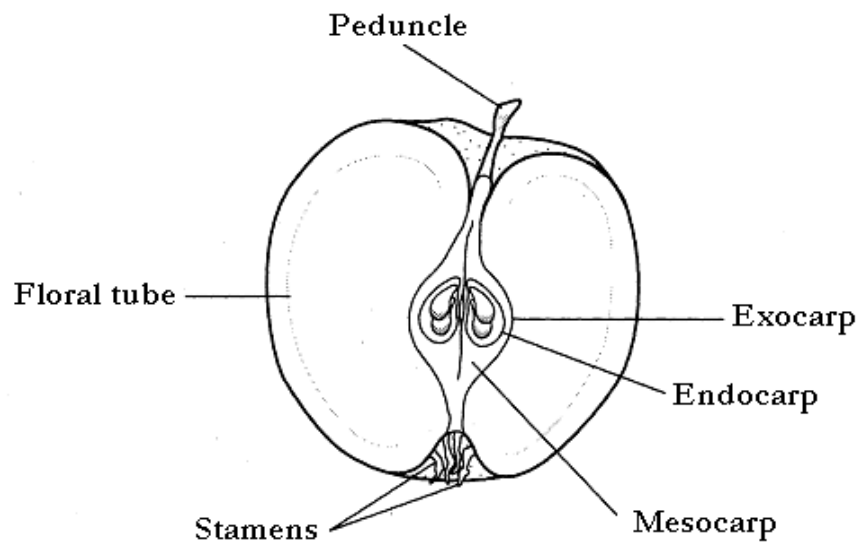


Figure 2

Examining Some Fruits

Examining an Orange

1. Using a knife, cut the orange in half so that you can see it in cross section.
2. Look for small oil glands just below the surface of the skin, which together with the rind forms the pericarp. The large fleshy portion of the fruit, which contains the liquid, is called the juice sac. The orange, which has a pericarp that is entirely fleshy, is called a berry. In the appropriate place in observations, sketch the cross section of the orange and label the PERICARP, OIL GLAND, JUICE SAC, and SEED.

Discussion Questions:

1. Why do flower structures dry up as fruits develop?
2. A fleshy berry with a rind is called a hesperidium. Other than an orange name a common hesperidium.
3. Classify these samples into DRUPE, POME or BERRY (multiple seeds, grows in a bunch).
 - a. apple
 - b. tomato
 - c. grape
 - d. cucumber
 - e. cherry
 - f. orange
 - g. pear
 - h. plum
 - i. peach
4. Is a cucumber a fruit or a vegetable? Explain your answer.
5. Why is seed dispersal essential to the survival of a plant species?
6. How are the following seeds dispersed? (WIND, WATER, ANIMAL)
 - a. maple seed
 - b. coconut
 - c. blueberry seed
 - d. dandelion
 - e. cocklebur seed
 - f. walnut
7. List one example of plants in which the seed is eaten and the fruit is discarded.