

Seed Dissection LAB

Name _____

Period _____

Dicot Seed: Bean

Page 1 of 2

BACKGROUND: There are two classes of ANGIOSPERMS (flowering plants), MONOCOTYLEDONS (monocots) and the DICOTYLEDONS (dicots). A typical DICOT seed is a bean. Corn is a MONOCOT.

Di- means _____, cotyledon means seed leaf. So the DI-COTYLEDON means 2 _____
_____. Mono- means _____ so the MONO-COTYLEDON has _____.

Highlight or circle the terms for the seed parts as you locate them.

I. DICOT: Bean Seed:



1. Examine a bean seed that has been soaked overnight.
 - a) The outer covering is the SEED COAT.
 - b) On the concave side, the HILUM SCAR is where it was attached to the pod.
 - c) Find a small PORE (hole) above the HILUM SCAR.
Look for a HOLE, There is a bump on the other end of the scar.
3. Below, make a scientific drawing of the External View, with the HILUM SCAR UP
4. Use a ruler to label your drawing with the capitalized terms from above,
5. Loosen and remove the SEED COAT.
The 2 big main parts are the COTYLEDONS (SEED LEAVES).
 - a) Cotyledons are sometimes called the first leaves of the new plant.
 - b) Cotyledons contain stored food for germination.
6. Carefully separate the 2 COTYLEDONS.
 - a) The EMBRYO should remain attached to one of them (or ask for a new seed).
 - b) The embryo has a PLUMULE (new leaves) and a RADICLE (new root).
 - c) The PLUMULE (new leaves) has 2 points that will be leaves when the plant grows.
7. Draw the Internal View. Label with capitalized terms from above.
HAVE CHECKED WHILE YOU STILL HAVE THE SEED.

DICOT: Bean: External View.

DICOT: Bean: Internal View.

SAFETY RULES for blades ↓ Initial each rule and then SIGN on #5.

1. GET PERMISSION _____
2. Always hold BLADE edge DOWN and toward table. _____
3. ALWAYS use cardboard or other cutting board.
4. Always LEAVE or RETURN blade to its place. _____
5. YOUR signature IS required. _____

Highlight or circle the terms for the seed parts as you locate them.

II. MONOCOT: Corn Grain (seed):



1. Examine both sides of a corn GRAIN (seed) that has been soaked overnight.
2. **LOOK:**
 - a) Corn is covered by the OVARY WALL which is really an attached FRUIT.
 - b) At the base is the POINT OF ATTACHMENT where it was in the cob.
 - c) One side is flattened and shiny. The raised center line is the EMBRYO.
 - d) The SILK SCAR is a tiny projection (bump) near the top where the silk or style was attached. It is hard to see. You might feel it.
3. Draw the corn, External View. Label with the capitalized terms from above.
4. Place the corn grain on your cardboard with the EMBRYO side UP.
 - a) Use a pen. Draw a line on the embryo for your cutting line. Have checked
 - b) **SAFELY** use a blade & cutting board. Cut on the line through the corn grain.
5. **FIND** the internal parts in one half of your monocot corn seed.
 - a) The outer skin like part is the OVARY WALL.
 - b) Most of the seed is the watery ENDOSPERM, which stores food.
 - c) The EMBRYO is pale yellow and surrounded by one white COTYLEDON.
 - d) The EMBRYO'S PLUMULE (top) will be one new leaf.
 - e) The lower part of the embryo is the RADICLE which will be the new root.
 - f) Check the board for help...or ask.
6. Draw and label the Internal View of the corn. Label the terms capitalized above.
HAVE CHECKED WHILE YOU STILL HAVE THE SEED.

MONOCOT: Corn: External View

MONOCOT: Corn: Internal View

