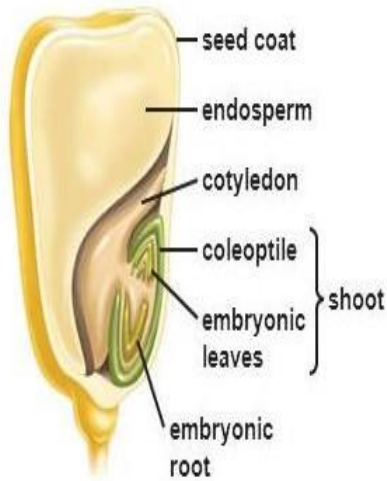
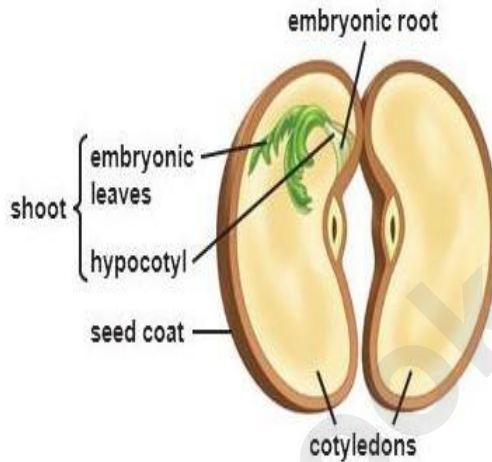


CLASS 8 ICSE BIOLOGY FROM SEED TO PLANT

A comparison of monocot and dicot seeds

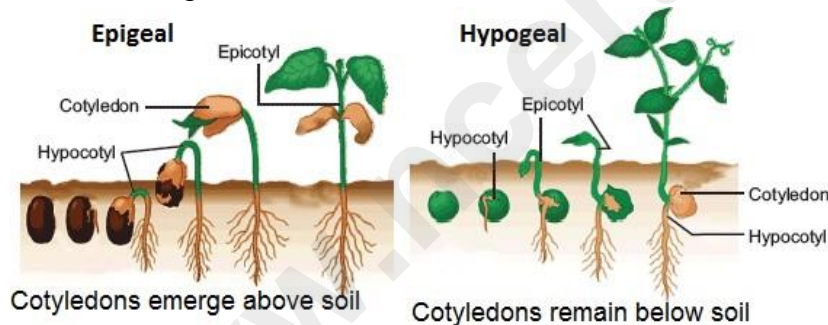


(b) Corn seed (monocot)



(c) Bean seed (dicot)

How do seeds germinate?

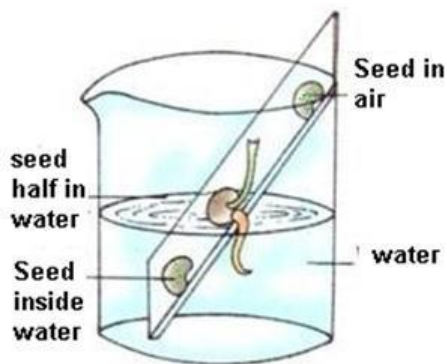


CONDITIONS FOR GERMINATION

- Water: rupture of seed coat; food converted to diffusible form in embryo
- Suitable temperature: Optimum temperature needed
- Oxygen: Aids cell growth and cell division

Experiments to show conditions necessary for germination

- Experiment 1
- Three bean experiment:
 - Top seed does not germinate (no water)
 - Bottom seed does not germinate (very little oxygen)
 - Middle seed germinates (both air and water present)



Three bean seed experiment

Experiment 2

- Place seeds in 4 test tubes so that:
 - Tube A has oxygen and water but placed in low temperature conditions (Observation: No germination)
 - Tube B has oxygen and correct temperature but no water (Observation: No germination)
 - Tube C has access to light, water and air (**Observation: Germination occurs**)
 - Tube D has boiled and cooled water to remove dissolved oxygen (Observation: No germination)

