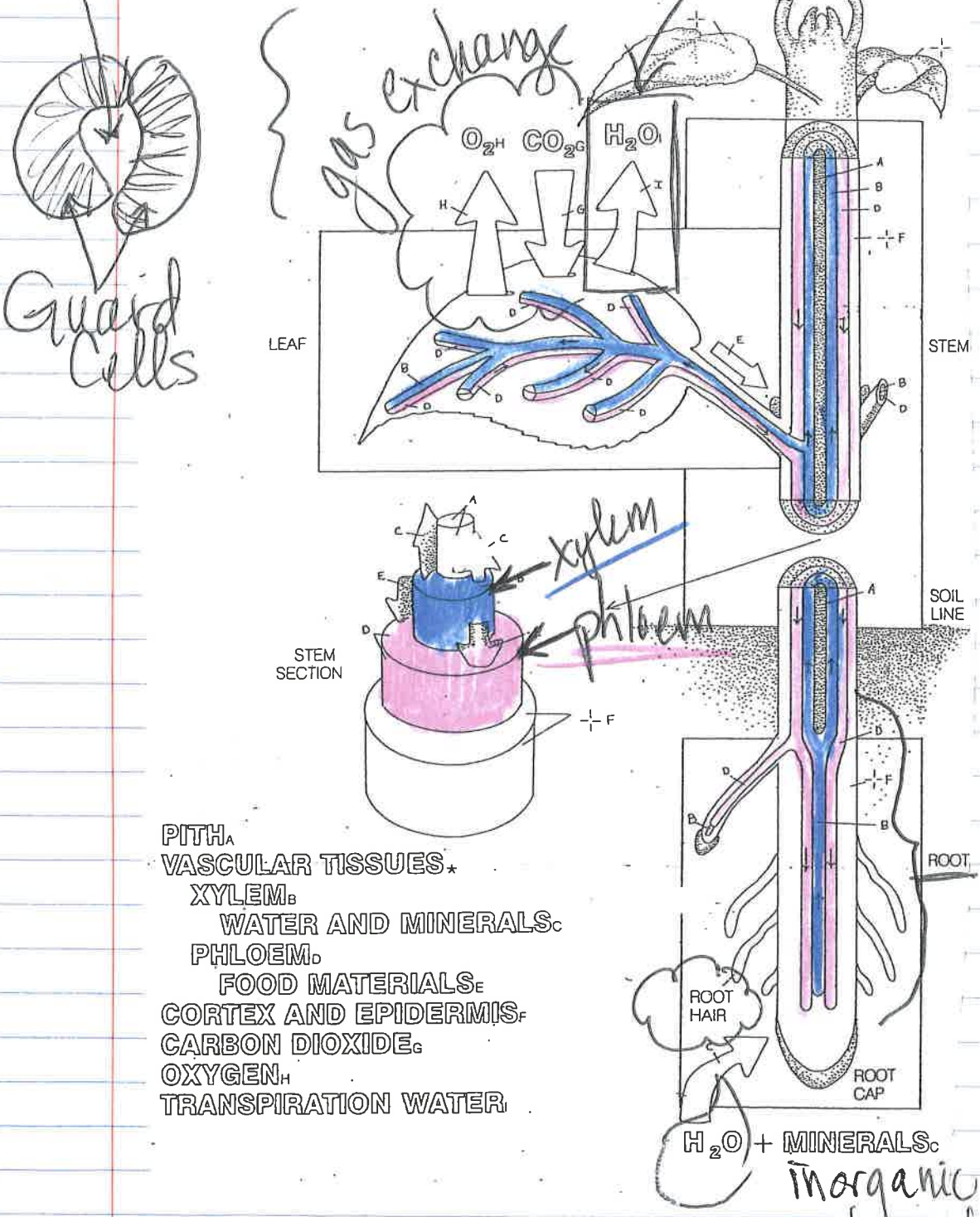
31 K. Plantae : Vascular Tissue Diagram

Stoma/Stomata

Transpiration

GENERAL VASCULAR SYSTEM

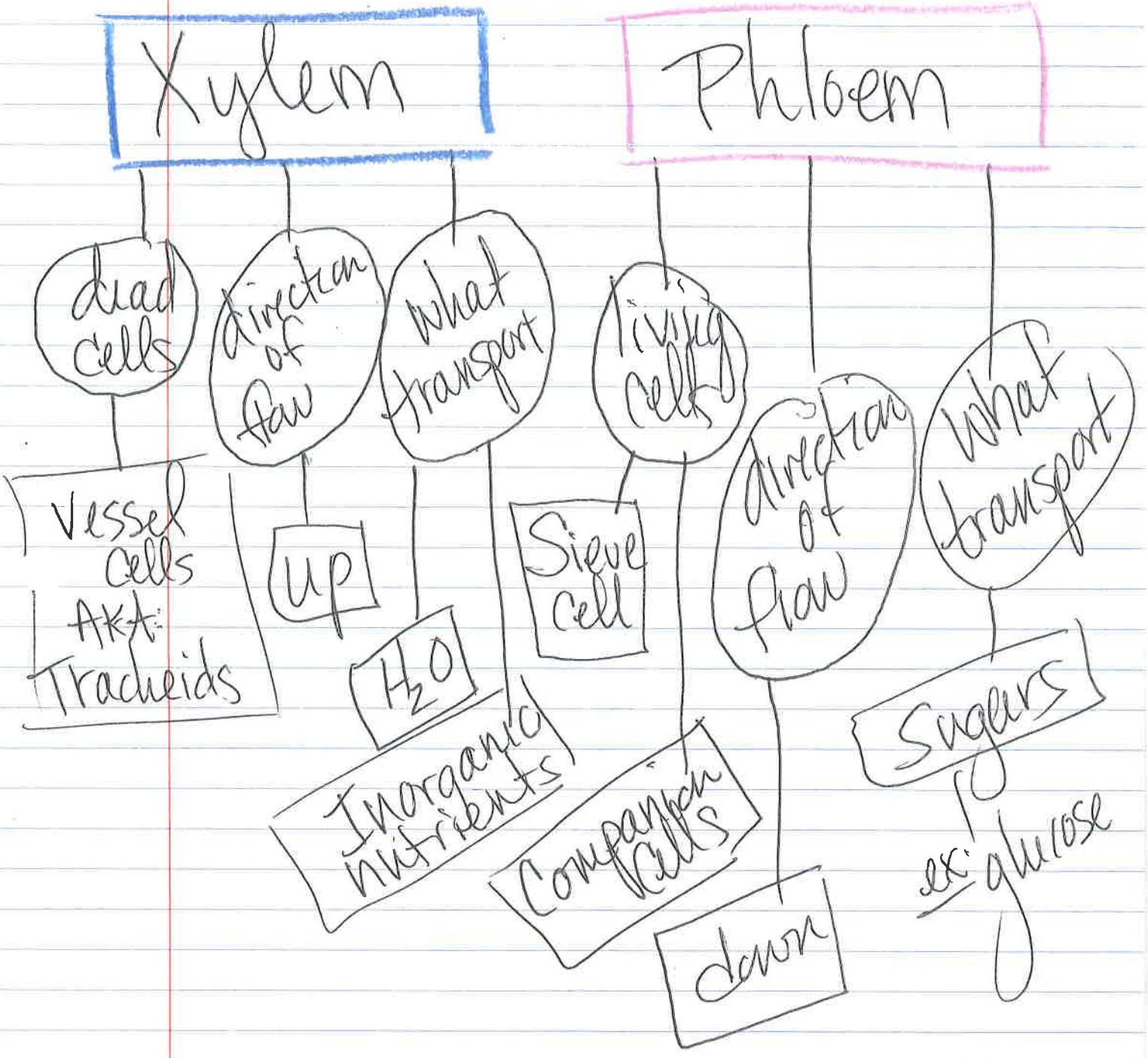


Guard Cells

PITH A
VASCULAR TISSUES ★
XYLEM B
WATER AND MINERALS C
PHLOEM D
FOOD MATERIALS E
CORTEX AND EPIDERMIS F
CARBON DIOXIDE G
OXYGEN H
TRANSPIRATION WATER I

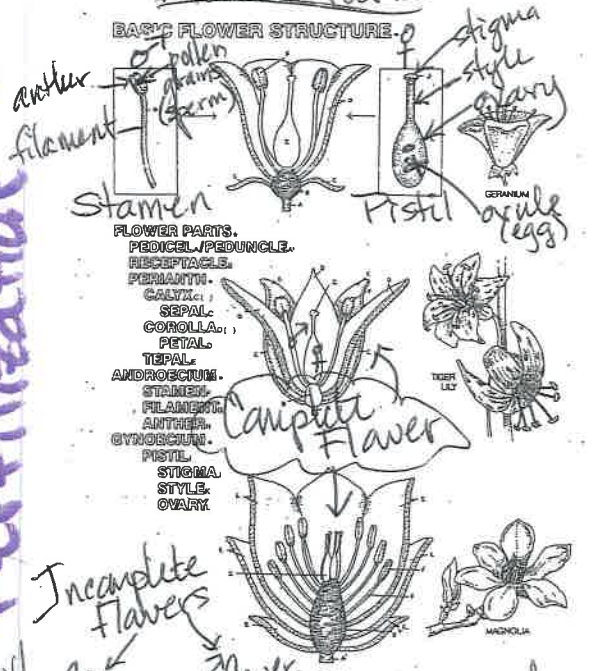
inorganic nutrients

32 K. Plantae: Vascular Tissue



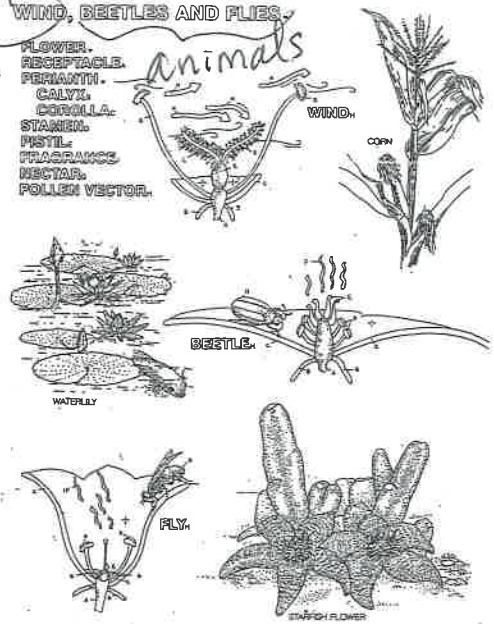
33 K. Plantae: Angiosperm (flowering plants)
Fertilization

Flower Parts.

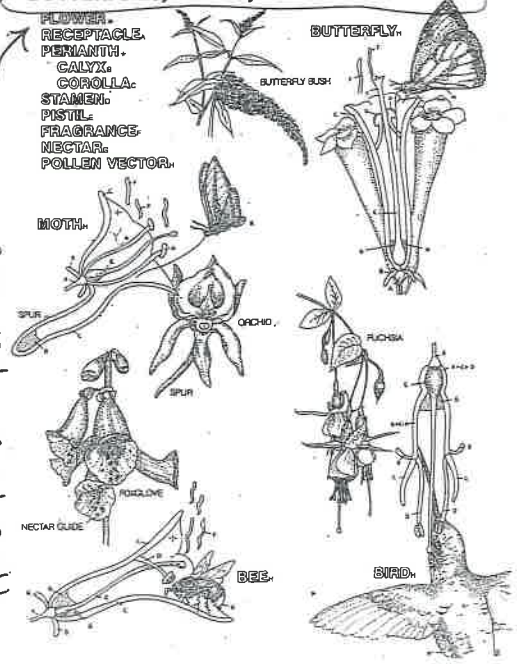


Incomplete Flowers
♀ flower ♂ flower (separate plants)

How Pollen Moves:

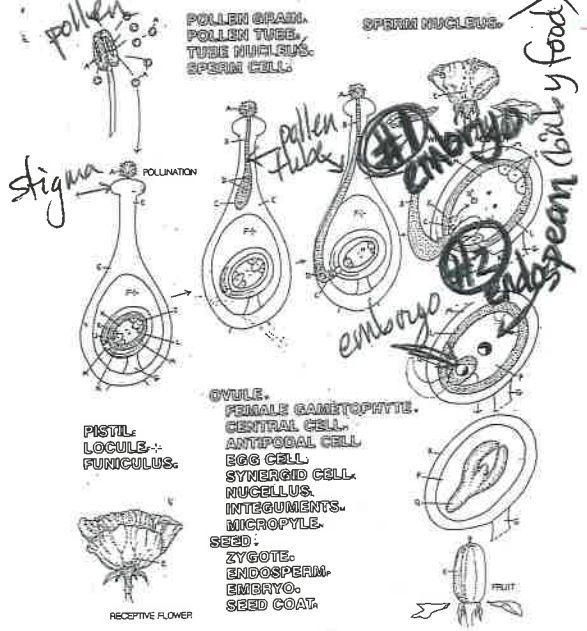


Animals



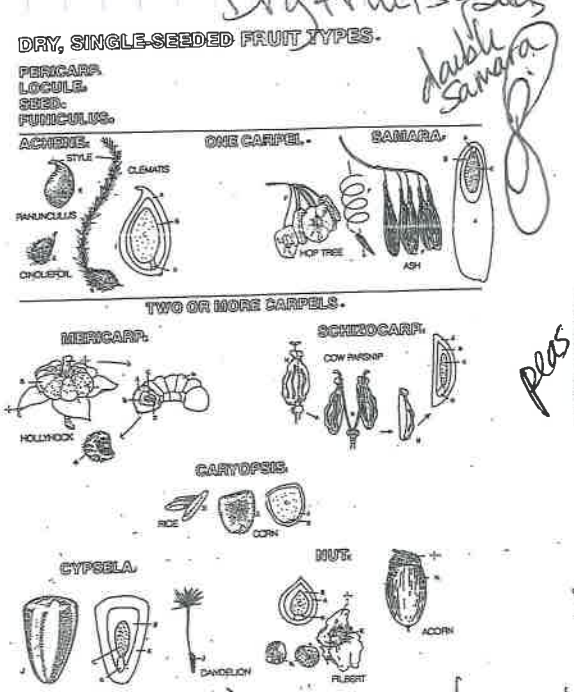
How Pollen Moves:

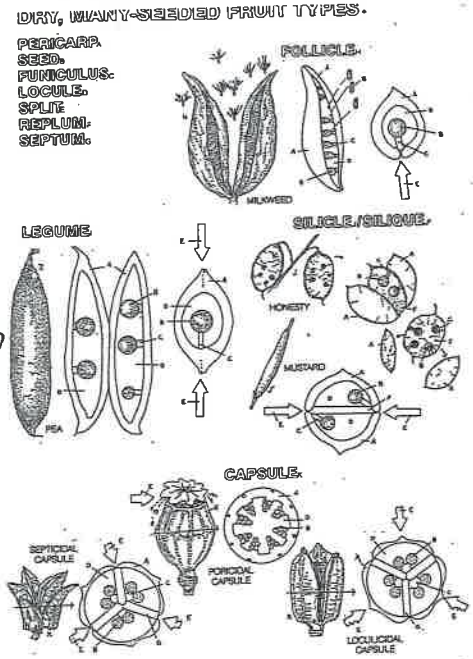
Double Fertilization



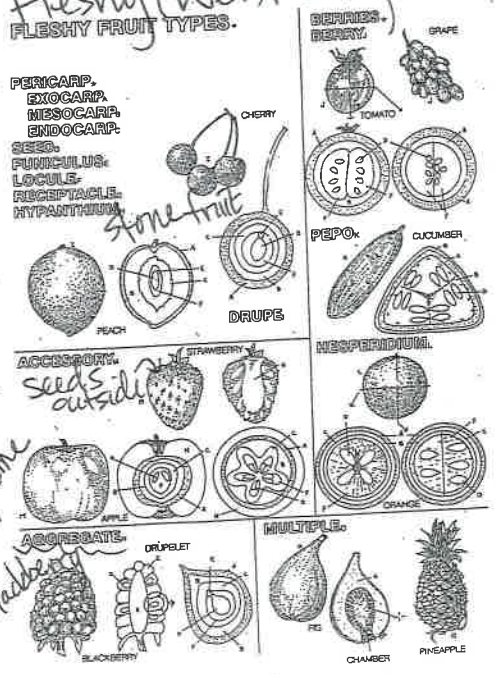
34 K. Plantae: Angiosperm
seed coat
embryo
endosperm
cotyledons
Seeds + Fruits
ripened ovary

Dry Fruits & Seeds

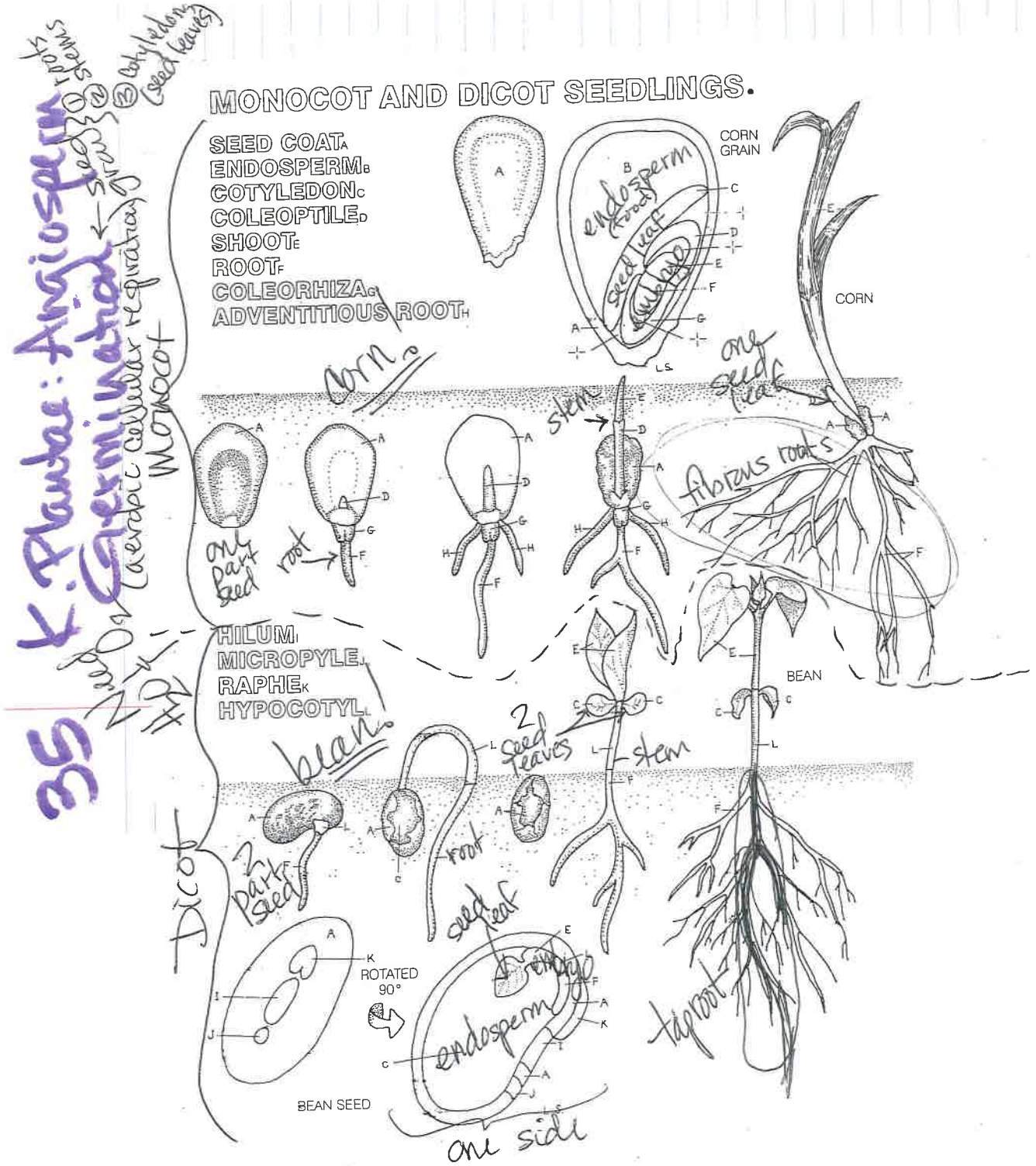




Fleshy (Wet) Fruits & Seeds



How Seeds Move


MONOCOT AND DICOT SEEDLINGS.
SEED COAT A
ENDOSPERM B
COTYLEDON C
COLEOPTILE D
SHOOT E
ROOT F
COLEORHIZA G
ADVENTITIOUS ROOT H
HILUM I
MICROPYLE J
RAPHE K
HYPOCOTYL L
CORN GRAIN
endosperm
seed leaf
CORN
one seed leaf
stem
fibrous roots
BEAN
2 seed leaves
stem
root
2 part seed
seed leaf
ROTATED 90°
endosperm
taproot
BEAN SEED
one side

36

Styles of Vascular Plants

Herbaceous

Filicinae
Gymnosperm
Angiosperms

Woody

only Primary Growth

- cell ÷
- cell elongation
- cell differentiation

Primary Growth

where?

Apical Meristem

grow up

Auxillian buds

grow out (sides)

Secondary Growth

where?

lateral Meristem

forms bark

increases girth

Bark = cork & cork cambium

sapwood

heartwood

functioning vascular tissue (xylem & phloem)