

# PLANT ANATOMY

## DERMAL

Makes epidermis

Outer surfaces "skin"

Protection from invaders

prevent water loss

Cells are living

Structural but flexible (NO LIGNIN)

## VASCULAR

Makes transport tissues

### XYLEM

### PHLOEM

Collenchyma

Sclerenchyma

Parenchyma

Structural but rigid (LIGNIN)

Transport sugars/amino acids from SOURCE (where its made) to SINK (where its used/stored)

Made of sieve-tube elements

Cells are living but lack nucleus, vacuole, ribosomes

Cells are dead with THICK walls (LIGNIN)

Pits connect neighboring cells

## GROUND

Makes everything else

Basic plant cell

Made of tracheids (all plants) vessel elements (angiosperms)

Transport water/minerals from roots to shoots & leaves

Most abundant type LIVING cell Thinner walls Perform metabolic functions Ex: spongy mesophyll palisade cells fleshy fruits

DEAD cells with tough cell walls for support Ex: hemp fibers

Sieve plates connect neighboring cells

LIVING cells grouped in strands/cylinders UNEVENLY THICKER cell walls support growing parts of plants Ex: celery strings

Have COMPANION CELLS provide assistance help load sugars

can differentiate into other cell types