Simple leaf shapes (e.g. ovate, lanceolate, elliptic, linear - not tested in Botany)
Leaf margin examples
Leaves – External

- entire
- lobed
- serrated
- spinose
Leaf venation: palmate, pinnate, or parallel.
Dicots have netted venation with the major veins pinnate or ...
... palmate venation (such leaves are commonly lobed)

Leaves – External
Monocots have parallel leaf venation (exception: some members of the Araceae)

Leaves – External
Simple and compound leaves: look for an auxiliary bud to be certain not to call leaflets *simple leaves!*

Leaves – External
Palmately compound leaf:

leaflet, midrib of leaflet, blade (all the leaflets), petiole, auxiliary bud, stem
Palmately compound leaves
Leaves – External
Pinnately compound leaf: leaflet, midrib of leaflet, blade (all the leaflets plus rachis), petiolule, rachis, petiole, auxiliary bud, stem
Pinnately compound leaves
Leaves – External
Leaf arrangement

Whorled

Alternate (may be spiral)

Opposite (may be decussate)

Basal
Leaf attachment examples (not tested in Botany)

Leaves – External

- Petiolate
- Sessile
- Perfoliate
- Clasping
- Sheathing
Stipule: appendage(s) at the base of the petiole (spiny or leafy)
Grasses: culm (stem), node, leaf sheath, leaf blade, (auricle, ligule – FYI)
Rush and Sedge: stems round in cross-section and usually not jointed (rush)
leaf bases triangular in cross-section, and not jointed (sedge, “sedges have edges”)

Leaves – External

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Mature (m) versus juvenile (j) foliage, e.g. *Hedera helix* and *Juniperus sabina* (a conifer).

Juvenile foliage works better for vegetative reproduction by cuttings but seeds will only forms on mature foliage.
Fern frond: blade (all pinnae combined), rachis, pinna, pinna segment (pinnule), stipe

(Covered in Lab 5 in Botany)
Diversity in frond shapes (FYI)
Some conifer leaf shapes (needle-shaped or acicular, linear, scale-like, or awl-shaped)

(Covered in Lab 5 in Botany)