

Vegetative Morphology Room-Roving Activity
Visit each station and answer accompanying questions

Name _____

1. *Acacia sp.*- This native tree has compound leaves commonly seen in the bean family (Fabaceae). What kind of leaf complexity? _____ Note the **petioles** and **petiolules**. How are the leaves arranged on the stem? _____ Also note the **prickles** on the stem (be careful!!!).
2. *Myrica cerifera* – Wax myrtle/Bayberry. The fruits of this plant are covered with a heavy waxy coating, and if boiled, a layer of wax can be skimmed and fragrant candles made! This long, thin leaf shape is called: _____ The leaves do not have much of a petiole; we call therefore call these **sessile** leaves. Notice the prominent midrib in the leaves. What leaf margin is present? _____ Are the leaves glabrous or pubescent? _____
3. *Oxalis sp.* – The heart-shaped blades are actually **leaflets**, not individual leaves. What does that make the stalk arising from the center of the 3 leaflets: stem or petiole? When 3 leaflets make up a leaf, we say it has _____ leaf complexity. Note that we call heart-shaped leaflets **obcordate**, rather than **cordate**, due to the orientation. (look at your sheet if you are unclear)
4. *Nandina sp.* – This entire plant piece is a **single leaf!!!** Is it simple or compound? _____ What kind of **apex** does each leaflet have? _____
5. Silvery-leaf unknown plant! – What leaf surface gives this plant its silver look? _____ Are the leaves opposite or alternate? _____
6. *Tecoma stans* – What leaf arrangement do we have here? _____ Are these leaves pinnately or palmately compound? What do we call the **leaflet margin** (hint: it's Latin for **toothy**) _____. Notice the obvious **lenticels** scattered along the stem. What are lenticels for? _____
7. Second unknown plant! – Does this plant have simple or compound leaves? (hint: look for the **axillary buds**). Are the leaves glabrous or pubescent? What's the leaf shape? _____
8. *Galium aparine*. – This plant, commonly called Beggars-Tick, is sticky to the touch! That's because it has a special kind of pubescence where the hairs act like **Velcro™**! Notice that there are several leaves at each node. What leaf arrangement do we call this? _____. Notice also the **square stems**, and the **mucronate** leaf apices (don't know what mucronate means? Look on your handout!!)
9. *Jasmiium mesneyi* – This jasmine plant will have fragrant yellow flowers this spring – it may show up as one of your plants to learn. What leaf complexity? _____ If you're stumped, look for **axillary buds** to guide the way. This plant also has **square stems**. Is the leaf surface glabrous or pubescent?
10. *Salvia sp.* – Note the square stems and opposite leaves. What leaf shape? _____
11. Third unknown plant! What leaf shape? _____ (This plant has leaves that might fall in between 2 different leaf shapes).

12. *Quercus sp.* - Oak leaves. Different oak species have wildly different leaf margins. What margin is present in these oak leaves? _____
13. *Justicia sp.* – Shrimp plant. What leaf shape? _____ What leaf surface? _____
14. St. Augustine’s grass – Many grasses can spread all over a lawn by way of their **stolons**. Notice at each **node** there is a plantlets and fibrous roots, which essentially act as independent plants. What major plant part is modified into a stolon? _____
15. *Sabal minor* – Palm leaf. Notice the **palmately-compound** leaf complexity. What is the long stalk that pushes the leaf out of the ground? _____
16. *Arundo donax* – We will be covering Giant Reed later this semester. It is one of the largest grasses in the area! Notice the parallel venation.
17. Red cabbage – Cultivated for a much-reduced stem with very large, fleshy, overlapping leaves. The nodes are tightly packed together such that it is difficult to tell what leaf complexity it has!
18. Carrots and turnips – What structures are these? Stem, root, or leaf? They’re **tap roots!**
19. Brussel sprouts – Essentially baby cabbages! What, **botanically**, is a brussel “sprout”? _____ . (Your hint is that it arises from a **leaf base** – on this specimen we only have the petioles remaining). Some of the leaves are totally gone, even the petioles, leaving behind **leaf scars**. Notice how big they are, and how you can see where the vascular tissue bundles were.
20. Onions are bulbs – the stem is very reduced, and the fleshy leaf bases make up most of what we know as an onion. On this specimen, note the extended green part of the leaves. Based on venation, is this a monocot or dicot? _____
21. Celery – What plant part do you eat when you eat a celery stalk? _____ (hint: look at the leaf blades at the top of the stalk).
22. Wheat grass – Grasses are **monocots**, which usually have bunchy, fibrous roots.
23. Potatoes are **tubers**, which is what plant part, modified? _____ As a hint, I can tell you that the “eyes” of potatoes are really **axillary buds!**
24. Sweet potatoes look a lot like Irish potatoes, but botanically they are very different. Are there “eyes” on sweet potatoes? (no) Therefore, it is not a tuber. What plant part do you think sweet potatoes are? _____
25. Asparagus stalks are the **early shoots** of what will become a tall, fibrous plant. What are the “scales” on the asparagus stems? _____
26. Ginger – is a **horizontal, underground stem**, which sometimes has a green growing tip if you get it very fresh. What do we call underground, horizontal stems? _____