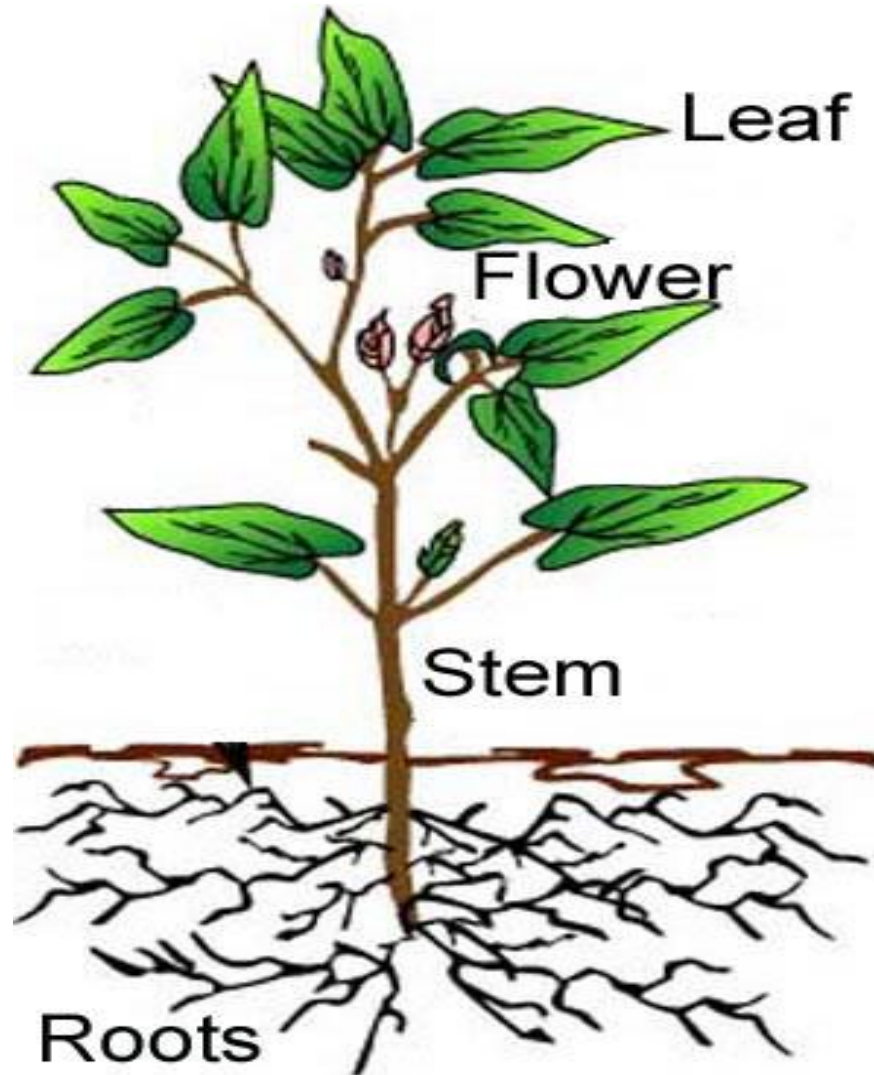
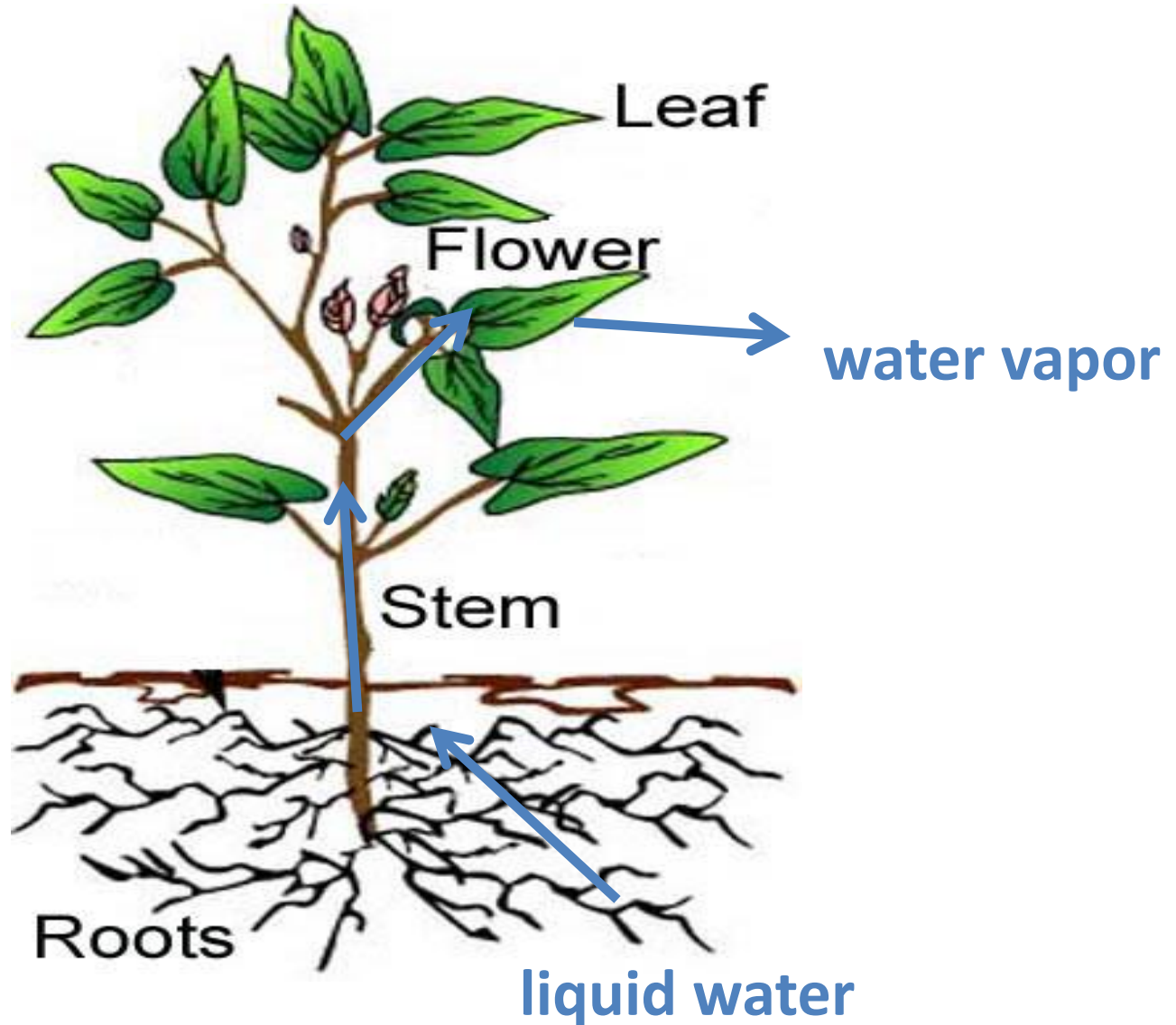


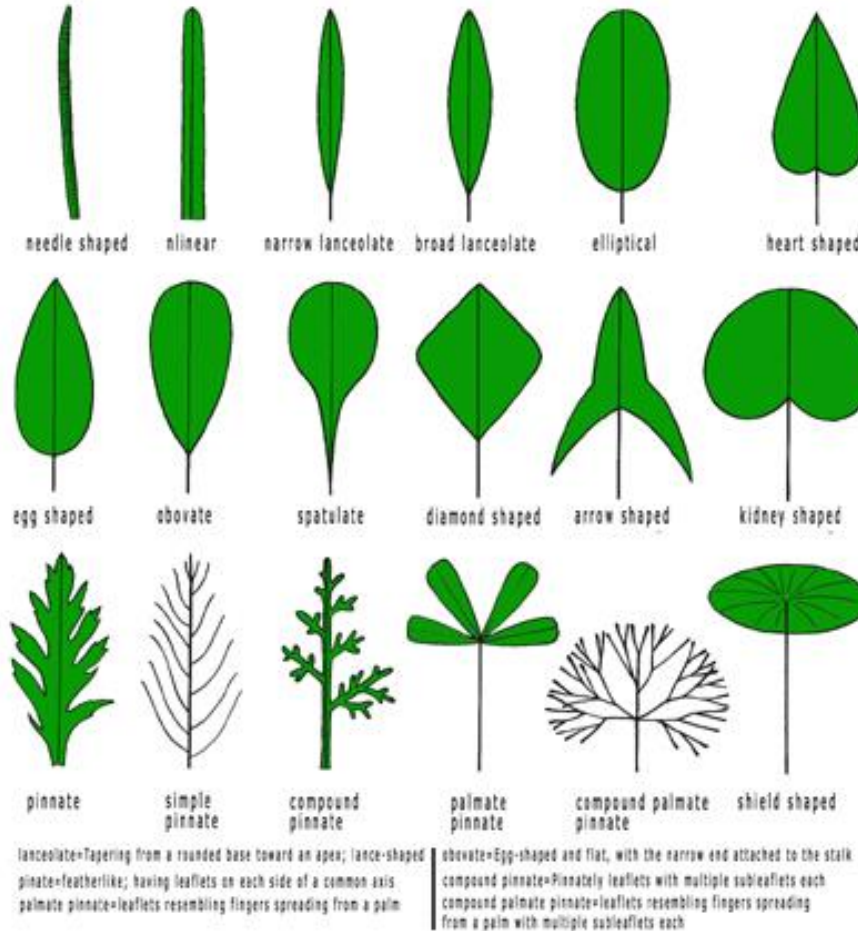
How does water travel through plants?



Transpiration!



Leaf Shapes



III. 3 Leaf Laminae

Plant adaptations to water



Lots of water



Some water

Very little water



- What do desert plants have to do?
 - adapt to survive with little water.
- 3 types of adaptations:
 - store water in stem
 - small or narrow leaves
 - waxy leaves



http://www.h2ouniversity.org/assets/images/tree_mesquite_leaf150.jpg



http://www.penick.net/digging/images/Ice_agave%20leaf.JPG

Observing transpiration in real leaves.





Sonoran Desert

What differences
do you see?

Water!



Phoenix urban area

Where do we get the extra water in desert cities?
Does it rain more in the city than in the desert?



<http://www.archithings.com/wp-content/uploads/2010/01/Luxury-Modern-Desert-House-In-Paradise-Valley-Swimming-Pool-588x441.jpg>

http://www.bigblockblog.com/blog/wp-content/uploads/2009/05/hand_car_wash_sponge-150x150.jpg

No... river water travels long distances to the city in
canals built by people.

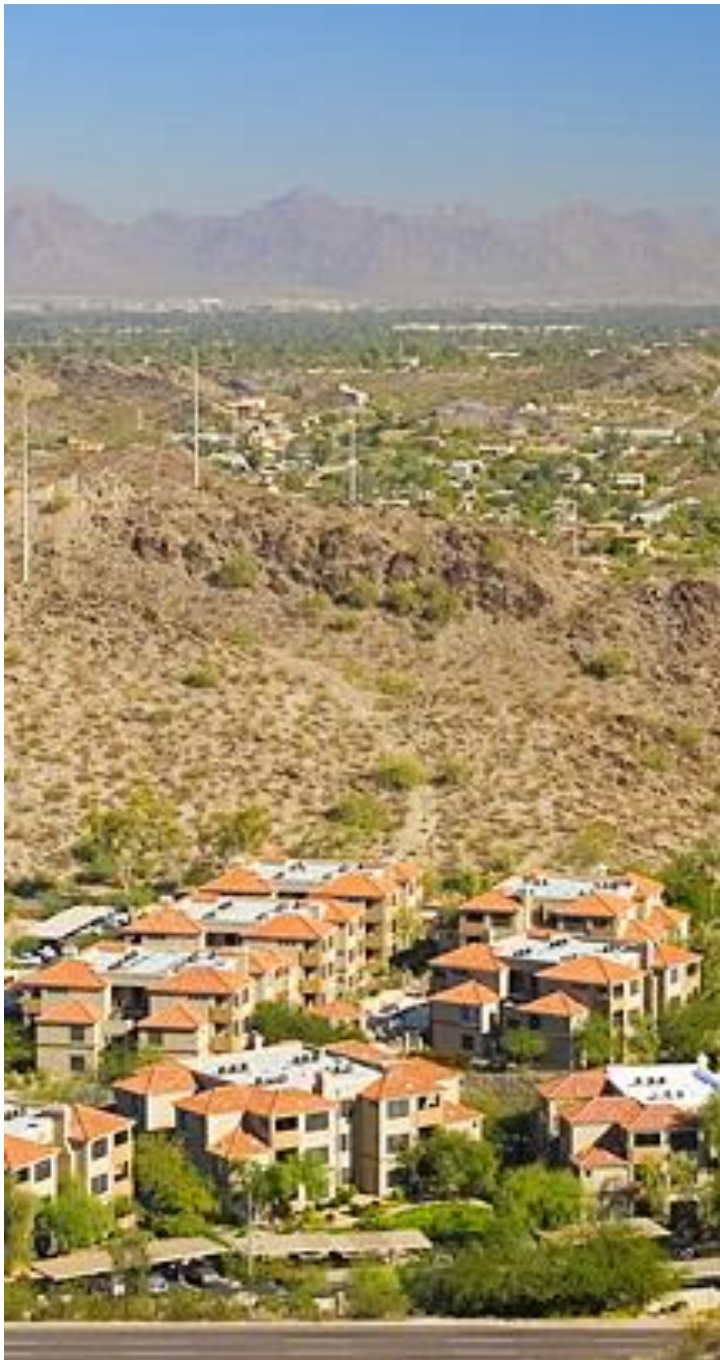


http://www.azlitter.org/scottsdale/20051116/002_ArizonaCanalSign.jpg

http://www.saltriverexplorer.com/images/canal_glendale.jpg

Cities pump groundwater up from aquifers.



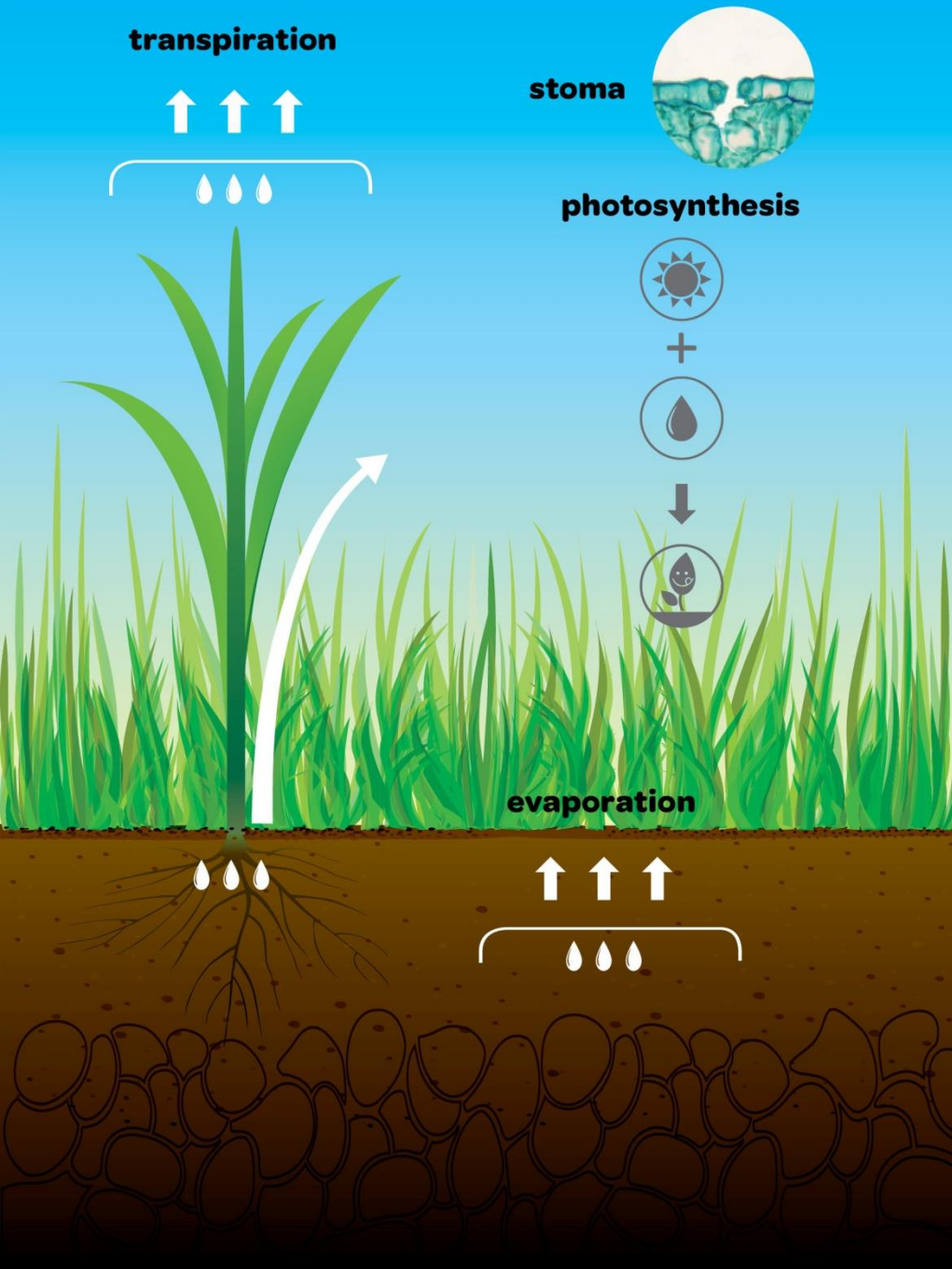


Humans change the desert
in urban areas.

More water means more
types of non-desert plants
can survive in cities.

This means less Sonoran
desert and less water for
other uses.

Evapotranspiration



Water loss from the earth to the atmosphere is called **evapotranspiration**.

This includes evaporation from plants and other surfaces like soil.

Landscaping: what should we choose?



Which plants are better water savers?



Sonoran desert plants



common city plants

