

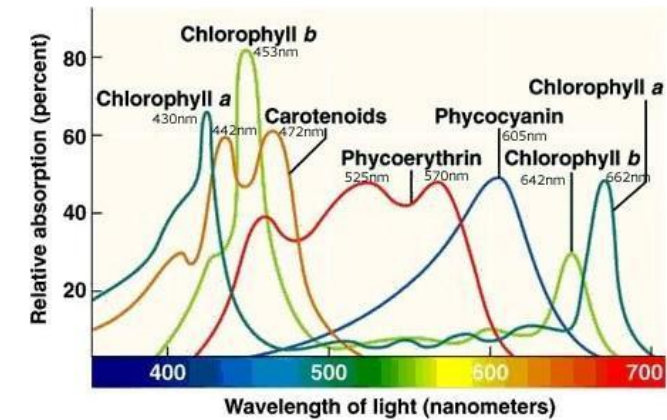
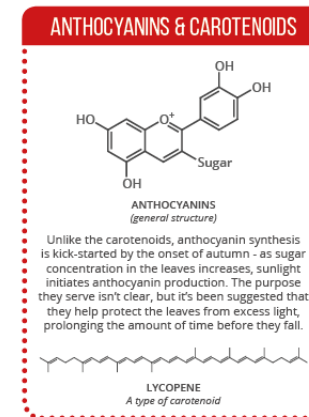
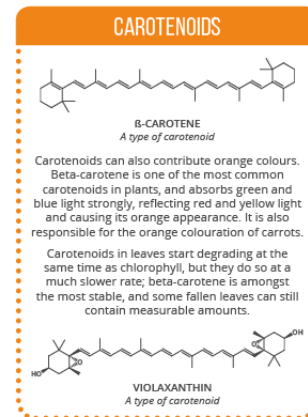
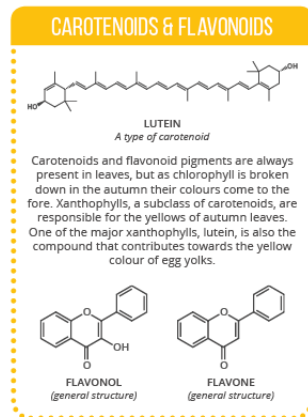
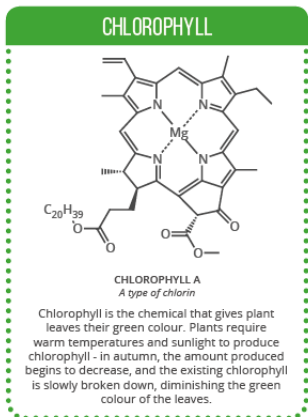
In-class activity



Discuss how those beautiful colors can be found in the Fall

- where are the colors originating?
- what is the main factor affecting this phenomenon?
- why in the Fall?

Beyond Colors of Autumn Leaves

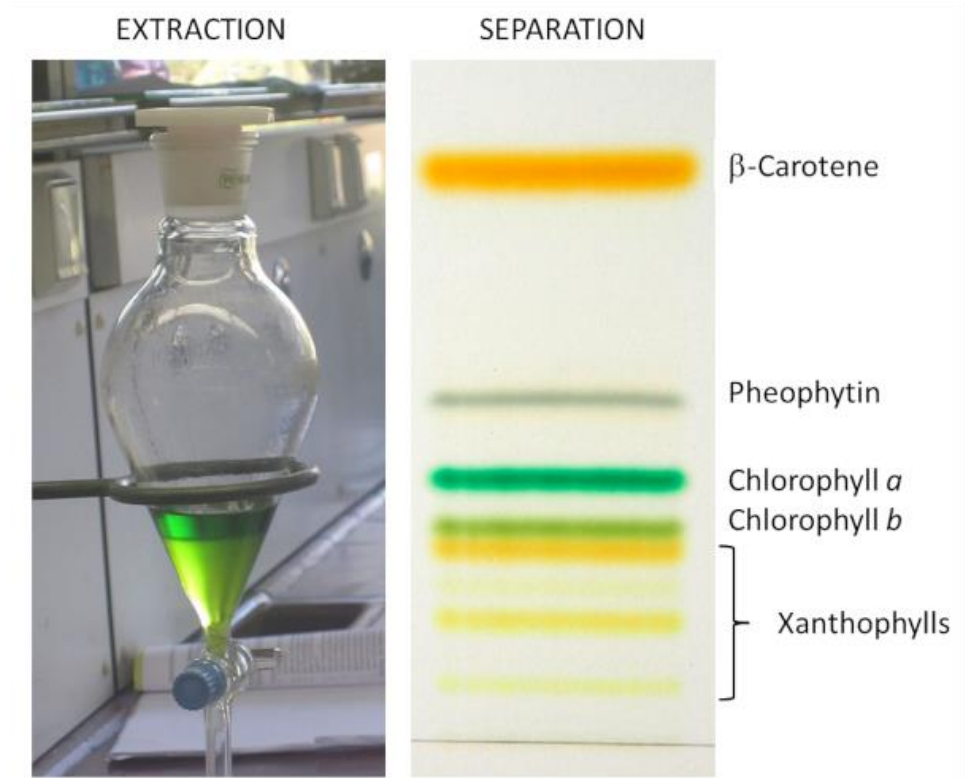


Absorption spectra of different pigments in leaves:

- chlorophylls (green)
- carotenoids (orange)
- anthocyanins (red)
- xanthophylls (yellow)

Pigments in leaves. Pigments help absorption of light (to be transformed in energy for the plant)

Pigments in Leaf



Extraction and separation of pigments

Curiosity about Fall Foliage

- Timing of color change and leaf fall are primarily regulated by the calendar (increasing length of night)
- Temperature has very little affect on the shade of leaves
→ it all comes down to the amount of sunlight
- Peak Fall color comes earlier in northern latitudes than southern latitudes, so if you miss the best of the sugar maples in Chicago, take a trip south to get your color fix!
- Perfect and spectacular fall: **moist growing season followed** by a **dry autumn with warm, sunny days** and **cool** (but not freezing) nights
- Changing leaves are good for business: in places like Upstate New York, and New England, visitors flock to see the changing leaves - a tourism activity generating over \$3B\$/yr!

