Talking Trees

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7th Grade Life Science
Through Careful Observation and Documentation ...

- “And this our life, exempt from public haunt, finds tongues in trees, books in running brooks, sermons in stones and good in everything.”

- Shakespeare: As You Like It, Act 2:1.15
Objectives:
- Students will acknowledge the need for subject-specific vocabulary.
- Students will practice using new terminology.
- New vocabulary will empower students to observe greater detail.

Introductory Game:
- Back to Back - prior to introduction of terms
- Introduce basic terminology
- Back to Back with basic terms
- What other terms would be helpful?
LEAVES may be deciduous (shed annually), or they may be evergreen or persistent (remaining on tree one to many years). Most cone-bearing trees and some broad-leaved trees are evergreen. Leaf arrangement may be obscure at growing tips, where leaves may not have reached full size. Leaves of some trees bear stipules (not shown), small leaf-like appendages at base of petiole.

ARRANGEMENT

- Fasciated: bundles of 2 to 5 enclosed at base by sheath
- Clustered: in false whorls at tips of spurs, without sheath
- Alternate: a single leaf at each node
- Opposite: 2 leaves at each node
- Whorled: more than 2 leaves at each node

TYPES

- Simple
- Pinnately compound
- Odd pinnately compound
- Even pinnately compound

SHAPE

- Acuminated
- Acute
- Obtuse
- Rounded
- Truncate
- Emarginate

BASES

- Carinate
- Acute
- Obtuse
- Rounded
- Truncate
- Auriculate

VENATION

- Parallel
- Palmate
- Pinnate
- Arrate
Assessment of learning:

Student Assessment:

Label each leaf with the terms that apply

Measure and label the length and width of each leaf

Pair, share and compare with learning partner

Collected and evaluated for readiness to take our skills into the field!
In the field...

This is a page from a student’s Life Log (field journal)

Sketch a leaf. Label the characteristics you observe using our acquired leaf language.

Make a list of Curiosity Questions about your tree, its leaves, and the surroundings.

- When will this tree change color?
- How old is this tree?
- The tree is close to the water. Is that beneficial to its health?
- It seems to be getting direct sunlight
- It is on a slope
- Smaller than some other surrounding trees
Which leaf comes from your tree?
Tree Id
Data Summary Form

Preparation to enter data into Harvard Forest’s database

Average leaf length and width

Color of Fall leaf

Date of 50% color change and 50% leaf drop

When we put all of our data together, do you think we will be able to answer “When does the growing season for our trees end?”

Analysis: Thinking more about the Fall Data

1. Calculate the average length and width of your six research leaves. (Remember to record the metric units.)

   Average leaf length: 15.8 cm
   Average leaf width: 9 cm

The scientists at Harvard Forest determine that a tree has experienced color change when 50% of the tree’s leaves have changed color. The tree has experienced leaf drop when the tree has lost 50% of its leaves.

2. Look at your data. What date can you say that 50% of your tree had changed color? October 19

3. What color(s) did your tree’s leaves turn? 
   - 10/19: Brown

4. Look at your data again. What date can you say your tree had lost 50% of its leaves? October 19

Additional Comments:
Looking, Listening more closely

What twigs have to tell us... Measuring growth between scars
Thank you for this rich experience!