



Dichotomous Key Activity

Students practice using a dichotomous tree key and then create their own place-based tree key.

Materials

- Activity Key
- Getting Started on Leaf Characteristics
- Sample Leaf Cards
- Tree Information Cards

Resources

- Texas A&M Forest Service, Trees of Texas
 - How to ID: <http://texastreeid.tamu.edu/content/howToID/>
 - ID by Leaf: <http://texastreeid.tamu.edu/content/idByLeaf/>
 - List of Trees: <http://texastreeid.tamu.edu/content/listOfTrees/>
 - Leaf Collection & Safety: <http://texastreeid.tamu.edu/content/leafCollectingSafety/>
- Arbor Day Foundation
 - What Tree Is That?: <https://www.arborday.org/trees/whattree/>

Instructions

1. Print activity pages, cutting Sample Leaf and Tree Information Cards apart. Print either a set for each group or individual, or enough to swap during the activity.
2. Review the handout Getting Started with Leaf Characteristics or use the How to ID section of the Trees of Texas website with students.
3. Provide the students with one of the Sample Leaf cards. Ask students to observe the characteristics of leaves: leaf tips and bases, leaf margins, leaf textures, leaf structure, and leaf arrangements. Optional: have them write a list of the characteristics for their leaf.
4. Have students use the Activity Key to identify their tree species.
5. Once the students have identified their species, give them their declared Tree Information Card to verify their decision. They can also look up their tree on the List of Trees section of the Trees of Texas website to review more information.
6. Have students continue practicing with the key by identifying all of the Sample Cards.

7. If leaves are available on your local trees, have students collect samples. Review the Leaf Collection & Safety section of the Trees of Texas website with students.
8. Have students identify their collected species using the ID by Leaf key on the Trees of Texas website or the What Tree Is That? key from the Arbor Day Foundation website.

Extension

Create a place-based tree key that is unique to your campus.

Have your students choose trees to include, collect leaf samples, categorize the leaves based on their characteristics, then write out a key. After creating the key, have another class or another group use it to identify the local trees. Publish a print copy of the key to share or add a digital version to your school website.

If your class or school already has a Tree Trail, consider creating a key for the trail. If you do not have a Tree Trail, find more information about creating one at <http://tfsweb.tamu.edu/ConservationEducationResources/TreeTrails/>.

Question 1

Is the tree coniferous? Does the tree have needle-like leaves and bear cones?..... Yes, you have a Loblolly Pine.

OR

Is the tree a broadleaf? Does it have thin, flat leaves?..... Yes, go to Question 2.

Question 2

Are the leaves simple? Is there one leaf attached to the petiole?..... Yes, go to Question 3.

OR

Are the leaves compound? Are there multiple leaflets on a single petiole?..... Yes, go to Question 4.

Question 3

Are the simple leaves opposite?..... Yes, you have a Red Maple.

OR

Are the simple leaves alternate?..... Yes, go to Question 5.

Question 4

Are the compound leaves alternate with lanceolate shaped leaflets?..... Yes, you have a Pecan.

OR

Are the compound leaves opposite with oval shaped leaflets?..... Yes, you have a Texas Ash.

Question 5

Are the margins serrated or toothed and is the leaf shape oval?..... Yes, you have an American Elm.

OR

Are the margins lobed and is the leaf apex rounded?..... Yes, you have a Post Oak.