

Determining Differences & Seeing Similarities: The Chinquapin Challenge



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OBJECTIVE: To use observation skills and nonfiction resources to identify an endangered tree and its look a-likes.

GRADE LEVEL: 6-12 **TIME NEEDED:** 30-40 minutes depending on skills

STANDARDS: GLEs – 31E5a, 31D3a; 41A4ab, 41D4a, 43C4a, 43C6ab; 71E3-6a

MATERIALS: Tree identification field guide; the guides should have leaf and seed images, and range maps.

BACKGROUND:

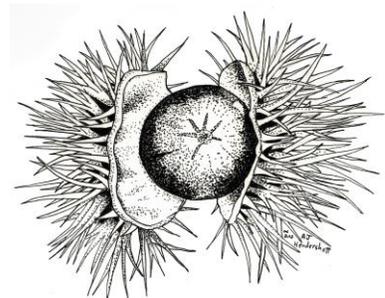
The Ozark chinquapin is a relative of the American chestnut tree. Chinquapin is a word from the Algonquian tribe that means “great seed”. Chestnuts and chinquapins have a lot in common. Both trees have simple ellipse shaped leaves with serrated or toothed edges, and protect their nuts with sharp spiny burrs. Both bloom late in the spring, and produce a nutritious tasty nut. The American chestnut is a larger tree, producing two to three nuts inside a burr that open by splitting in four places; while the Ozark chinquapin produces a single nut and the burr splits in only two places.

The Ozark chinquapin was once common on the Ozarks hills, but a fungus known as the Chinese chestnut blight has decimated the Ozark chinquapin and American chestnut. Both trees formerly provided food for people and animals.

Chinquapins resemble Chinkapin oaks, Dwarf chinkapin oaks, and Swamp chestnut oaks. Each tree has simple elliptical leaves with serrated leaf margins. The serrations vary in number and shape from species to species as does leaf size.

Swamp chestnut oaks may resemble chinquapins but they do not share the same habits or range. Swamp chestnut oaks prefer the rich bottomland soils of southeast Missouri, and eastern Arkansas. Ozark chinquapins and Chinkapin oaks prefer dry, rocky and sunny slopes, their number of serrations differ. The tree resembles a Chinkapin oak but the similarities stop when you examine the nuts on the trees. Oak acorns have the telltale cap, while Ozark chinquapins are born in a protective spiny burr that defends against rodents and birds. Only after the nuts drop are they difficult to tell apart.

Students need to know saving this species starts with the ability to identify it. Analytic skills will be useful in identifying an Ozark chinquapin and serve students in other areas as well.



Vocabulary:

Blight: A disease that kills young growing tissue.

Burr: seed cover that is covered in sharp spines for protection.

Exotic: A species that did not originate in an area. Most exotic species arrive due to people.

Leaf Margin: The complete outer edge of any leaf.

Native: A species that has occupied an area for an extended time, or arrived by natural process.

Serrate: toothed edges on a leaf margin.

ACTIVITY:

***warm up:** Sing or read the lyrics to Merry Christmas to You. The opening line states “Chestnuts roasting on an open fire, Jack Frost nipping at your nose . . .” Has anyone ever tasted a chestnut? What do they look like? What do they taste like? Have you ever heard of a chinquapin? What do you think that word means?

***activity:** Use a field guide or web search for background and characteristics. Have the students work through the work sheet singly or in pairs. Discuss answers as a class upon completion. Then work on the assessment.

ASSESSMENT: Assignment 1: Draw the leaf and fruit of Ozark chinquapin and Chinkapin oak including differences and similarities.

Assignment 2: Use your knowledge of the vocabulary words and a field guide to create a Venn diagram identifying differences and similarities. Be sure to examine the fruit, leaves, bark and habitat preferences.

REFERENCES: Don Kurz. 2005. Trees of Missouri Field Guide. Missouri Department of Conservation. Jefferson City Missouri.

Web Sites

www.ozarkchinquapin.com

www.nature.org/wherework/northamerica/states/oklahoma/preserves/nickel_chinqua.htm

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www.centerforplantconservation.org/ASP/CPC_ViewProfile.asp?CPCNum=799

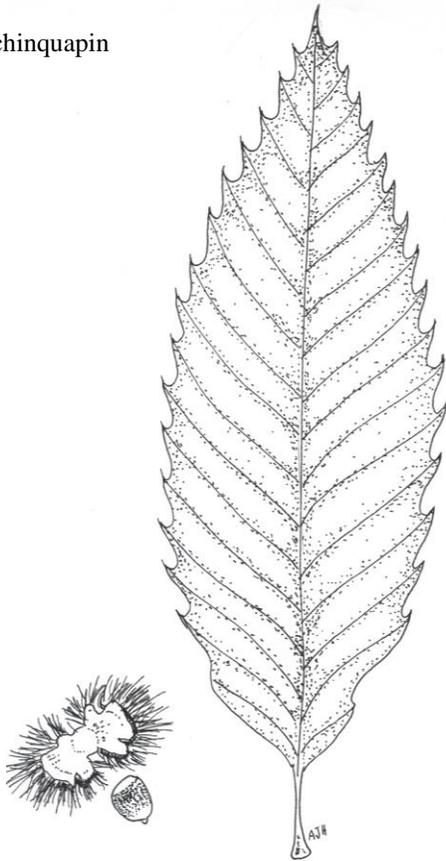
www2.volstate.edu/jschibig/ozark_chinkapin.htm



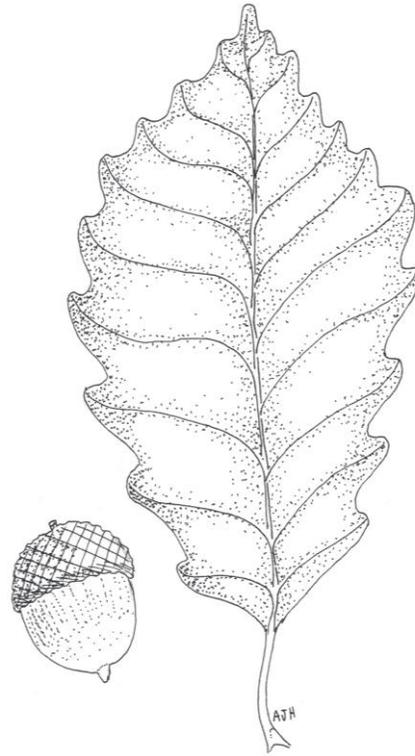
Similar Names, Similar Appearance



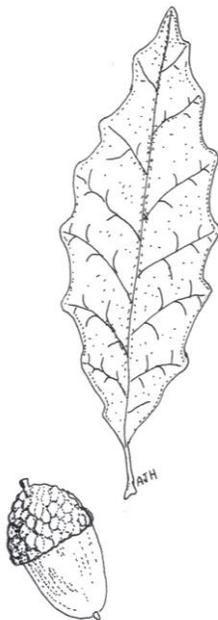
Ozark chinquapin



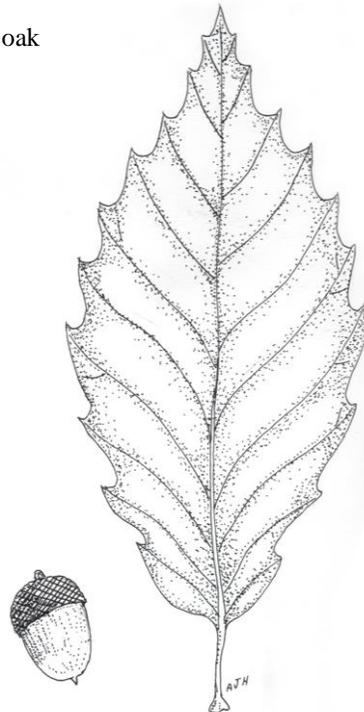
Swamp chestnut oak



Dwarf chinkapin oak



Chinkapin oak





What is A Chinquapin?

Student Worksheet



List how many trees have Chinquapin or Chinkapin in their name?

Chinkapin can also be spelled Chinquapin. Do research to determine the meaning of Chinquapin and who originated the word.

Which trees with Chinkapin (Chinquapin) in their name are native to your state?

Describe the habitat each occurs in:

Are these trees found in your county? Which tree with Chinquapin in its name is declining?

List 10 other trees found in your county.

Can you find the name of one exotic tree or shrub in your county?

The Ozark chinquapin nuts are tasty and nutritious. Research which wildlife species would eat this nut.

Do research to determine what uses Ozarks settlers and pioneers had for the Ozark chinquapin.

Visit www.ozarkchinquapin.com and find the historic accounts and read each. What caught your attention?

Why don't we have experiences like this today?