

The Wisdom of Oske (Rivercane)

Grades 9-12

Knowledge Holders

This lesson was created by Ace Samuels (Cheyenne, Arapaho, Choctaw) and Jennifer Santry (Choctaw, Lakota, Dakota).



Materials

- Clipboards
- Paper
- Pencil
- Small trowels or spoons
- Clear plastic cups or jars
- Reusable water bottle with water

Objective

The objective is to explore the interconnected relationships between ourselves and the land. This lesson will guide you to understand how these reciprocal relationships work and how you maintain your own connection with the relatives of your people. Through the story of Rivercane (Oske), we will see how a single plant relative connects history, culture, and environmental care.

Survivance Message

In most creation stories, the world begins with water, land, and our non-human relatives. Only then is a man or woman placed into this world on a journey to survive with what they are given. When we think critically about these stories, they remind us that this world is alive and can survive entirely without human intervention. This highlights the vital importance of taking care of the land and practicing intentional reciprocity such as offering tobacco and prayer when we harvest our food relatives.

This lesson focuses on the Chahta okla (Choctaw people) and their relationship with Oski (Rivercane). Oski provides itself to the people to create baskets, flutes, arrows, spears, fishing poles, fish traps, building supports, and tools for survival. Furthermore, Oski acts as a messenger relative: it indicates where the water is healthy and where the soil is ideal for cultivating other crops. This lesson will explore these reciprocal relationships and encourage us to think about how other relatives of the land shape the way different communities practice their traditions.

- **Oski as a Keystone Species:** Oske is recognized as a cultural and ecological keystone species of the Southeastern floodplains. Just as a keystone holds an arch together, rivercane stabilizes entire river systems. Its vast underground root networks (rhizomes) hold the earth in place, preventing massive soil erosion, while its dense above-ground canebrakes create a highly specialized microclimate. This unique habitat provides essential shelter, nesting grounds, and food for hundreds of other native relatives such as migratory birds, insects, and small mammals, who depend entirely on it for their survival. When rivercane is removed, the balance of the entire ecosystem collapses.
- **Historical Context:** The Chahta okla (Choctaw) were part of the forced removal from their ancestral homelands in the modern-day Mississippi region to Indian Territory, which is now Oklahoma. This devastating historical event is known to many as the Trail of Tears or the Trail of Death.



Standards

This lesson aligns with national science and social studies frameworks by:

- Evaluating how living root networks function as natural infrastructure to prevent soil erosion and protect river systems.
- Investigating how settler-colonial land clearing and climate change threaten native keystone species.
- Analyzing the engineering and chemistry behind traditional Indigenous technologies, like Choctaw basketry (kishi) and plant-based dyes.
- Exploring how Tribal nations exercise sovereignty by leading modern ecological restoration projects along degraded waterways

Braiding Knowledge: Curriculum Standards

This lesson is part of a broader framework that weaves together the Next Generation Science Standards (NGSS) and Indigenous Traditional Ecological Knowledge (ITECK). We teach Western science through a localized, relational lens to honor the history and sovereignty of the land and its caretakers. For a detailed breakdown of how this lesson aligns with specific NGSS benchmarks, ITECK guidelines, and UNESCO climate action goals, please visit our [story map](#).

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- **Threats to Oski:** Today, Oski is an endangered relative because of settler-colonialism and a rapidly changing climate. When colonizers first arrived, they only saw cane lands as fertile soil for their own crops. They treated the thick, hollow stems of the rivercane as an obstacle to be cleared away, destroying vast, ancient canebrakes. Other myths still claim that Oski is an aggressive weed (mistaking it for non-native Asian bamboo), completely ignoring how much our rivers and native wildlife depend on it to survive.
- **Restoration Efforts:** The Five Tribes (Choctaw, Cherokee, Muscogee, Chickasaw, Seminole) who rely on Oski have partnered with local organizations, as well as state and federal agencies, to create workshops focused on Rivercane restoration and to integrate its protection into state wildlife action plans.

Activities

10 Min: Feel! Take a walk along a flowing body of water, drainage ditch, or low point on campus to locate the riparian zone. Have students dig into the soil, feel the texture, and observe how damp ground differs from dry earth.

“What is a riparian zone? Where is the riparian zone? Look closely at the ground beneath your feet. This soil is a cradle for our plant relatives. When we feel the dampness and texture, we are feeling the land’s memory of water. Do you think this soil would be good enough to filter water or grow foods in? Why or why not?”

15 Min: Connect! Our plant relatives think and adapt to their own environments to be resilient. That resilience comes from all kinds of experiences over time and we see this as wisdom. The status of Oske today is not based on naturally occurring events, it is based on human interactions and the ignorance of settler colonialism. Introduce how deep root networks act as natural infrastructure to hold banks together and prevent environmental degradation.

“Before mass-produced drainage systems and concrete, plant relatives like Oske were the land’s natural defense against floods. The idea that a concrete wall is a ‘real’ engineering solution, but a natural canebrake is just wild brush, comes from a place of colonial bias that erases Indigenous engineering. Think of other relatives you relate to like the Chahta okla and Oske.”

20 Min: Play! Students gather a handful of soil from their walk (or a prepared classroom sample) and place it into a clear cup or funnel container. Pour a bottle of water directly onto the soil to simulate a heavy rain event, observing how quickly water runs through or pulls sediment with it. Have them test a sample with intact roots versus a sample of loose, bare dirt.



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Choctaw Vocabulary

Oske (pron. OHS-kee): Rivercane

Bok (pron. Bohk): River or stream

Oka (pron. OH-kah): water

Okla (pron. OHK-lah): people

Lyssa (pron. LUHS-sah): wetland

Kishi or kishih (pron. KISH-ih): basket

English Vocabulary

Traditional Knowledges,
Anthropocene, ecosystem engineer,
erosion, keystone species, riparian,
plant relative, microclimate

Resources

[Choctaw Dictionary](#)

[Developing and Testing Giant
Rivercane Germplasm Resources for
the Southeastern United States: a
Cultural Keystone Initiative](#)

[River Cane Harvesting, Splitting and
Peeling](#)

[What is Traditional Ecological
Knowledge \(TEK\)?](#)

[Revitalizing rivercane in Kisatchie
National Forest](#)

[Rivercane: Our Native Bamboo](#)

[Collaboration for River Cane
Restoration](#)

“How does the water look when it passes through rooted soil compared to bare earth? How does a living root network change the way a landscape handles a storm? If you were designing a space to protect your community from shifting climates, how would you partner with native plants to keep the water clean and the soil safe?”

Rivercane canebrakes act as buffer strips that trap toxic agricultural runoff (like fertilizers and pesticides) before it hits rivers. After observing the sediment, ask students to look at the clarity of the water. *“Look closely at the water that drained through the roots. Besides stopping mud from washing away, how do you think dense underground rhizome networks act like a natural water-filter for the whole community, keeping upstream chemical runoff out of our drinking water?”*

Reciprocity through Stewardship

When we clear away native plants and disrupt these riverways, the land loses its natural defenses against severe floods and erosion. Students can practice true reciprocity by returning a pinch of natural mulch, dried leaves, or native grass seeds back to the base of the riverbank plants. This simple action honors the cycle of mutual care: by feeding the soil and the root networks that protect our waterways, we ensure the land can continue to shelter and protect us.

Adaptations & Extensions

- Oske has an incredibly high concentration of silica in its outer walls, making it naturally split-resistant, lightweight, and stronger than many structural hardwoods. Students can investigate how the Choctaw utilized these precise physical properties to engineer tools, sleeping mats, structural house walls, and fish weirs (traps).
- Students can explore the step-by-step process of turning raw rivercane stalks into complex, watertight vessels (Choctaw basketry – kishi). Have students research the organic chemistry behind traditional dyes such as boiling black walnut hulls for deep browns, bloodroot for vibrant oranges, and pecan hulls for rich blacks examining how plant tannins bond with rivercane fibers.
- Due to settler-colonial land clearing, industrial agriculture, and cattle grazing, over 98% of the Southeast’s ancient canebrakes (dense rivercane forests) have been destroyed. Students can investigate how the Choctaw Nation of Oklahoma and Mississippi Choctaw communities are leading modern ecological restoration initiatives. By planting native canebrakes along degraded riverbanks, contemporary weavers and tribal biologists are working together to fight soil erosion, filter agricultural runoff, and ensure that future generations of youth have physical access to Oske for cultural continuity and sovereign self-determination.