



Birds, Plants, and People of the Klamath Basin

Overview

Students will learn about the Modocs' use of birds and plants and they will make a tule duck decoy

California Science Standards

Grade 4: 3.c– L.S.
Grade 6: 5.c– L.S.

Oregon Science Standards

Grade 2: 4D.1
Grade 4: 2L.1
Grade 5: 2L.1

National Standards

Content Standard A:
Scientific Inquiry
+ Social Studies

Materials Included

- * Student Journal
- * Laminated duck decoy pictures
- * Sample tule reeds and nettle fiber

Materials Needed

- * Tule reeds (2-3" bundle of reeds per student)
- * Cattail leaves (if tule is unavailable)
- * Tub for soaking tule
- * Cotton string or twine
- * Scissors
- * Feathers (optional)
- * Acrylic or tempera paint (optional)

Activity Time

Preparation: 1 hour
Activity Time: 1 hour

Best Season

Any season

Vocabulary

- * Tule
- * Decoy
- * Ethnobotany

Grade Level: 3rd-12th grades (O.S.S.: 2nd, 4-5th) (C.S.S: 4th & 6th)

Learner Objectives

Students will:

- Learn about the Modocs' use of birds for food and clothing
- Learn about the use of duck decoys in indigenous cultures and modern cultures
- Learn about the importance of tule as habitat for birds and humans of Lava Beds
- Work with traditional plant materials to create a duck decoys

Background Information

The Modoc Tribe's creation story says that they were created in the Klamath Basin and lived there since time immemorial. Lava Beds National Monument was inhabited by members of the Modoc tribe until the end of the Modoc war in 1873.

The abundance of waterfowl at Tule Lake and Clear Lake provided valuable food for the Modoc when they inhabited the area. They made nets from stinging nettle for catching geese, swans, ducks, wading birds, and fish. The nets were hidden just below the surface of the water, and the corners were held by people. Duck decoys, made from tule reeds, cattails, and other materials, were used to lure ducks into the nets, similar to current practices used by waterfowl hunters. When a flock of birds landed on or swam over the net, the people tightened the net, entangling the birds in it. They were then able to canoe out to the net and capture many birds at a time.

These nettle fiber nets were incredibly durable. They could be used all day, laid out to dry overnight, and then used again the following day. It was said that one of these nets was worth a good milk cow.

Ring-tipped arrows were also used for hunting water fowl. They had a ring of sap on the arrow tip which would skip across the water several times without sinking and would likely hit a bird when aimed at a large flock.

Archeological evidence shows that after waterfowl was eaten, the skin and feathers were used in making blankets and cords which were most likely incorporated into clothing.

Lava Beds has an interesting ethnobotanical history. Ethnobotany is the study of relationships between plants and people. One of the plants most frequently used by the Modoc of the Lava Beds region was tule. Tule is sometimes known

Lesson Plan

Background Information Continued...

as hardstem bulrush and grows in marsh areas. Tule was used by the Modocs to make baskets, hats, sandals, semi- water proof winter moccasins, leggings, mats, rafts, quivers, waterfowl decoys, nets for catching fish and waterfowl, and as a cover for dwellings.

Stinging nettle and sagebrush bark were some of the other plants that were used to make cordage, string and rope and used for fishing, netting, trapping, and other daily functions.

Tule provides important shelter and food, two essential habitat components for many local birds. These include Snow Geese, White-Fronted Geese, Canada Geese, Canvasbacks, Ruddy Ducks, American Widgeon, Lesser Scaup, and Eared and Western Grebes.

Getting Ready!

1. Read the background information.
2. Make copies of the *Student Journal: Birds and Modoc Culture*
3. You may want to invite several volunteers to your class to help with the activity.
4. Acquire tule (see suggestions for harvesting in the panel on the right). Cattail leaves can be used if tule is not available. You'll need enough to form a 2-3" diameter bundle for each student.
5. Tie a piece of twine around a 2-3" diameter bundle for each student. Trim tule to make each bundle about 2 feet long.
6. If using tule, split lengthwise and scrape out the pith (the spongy center).
7. Soak all the bundles of tule and/or cattail, as well as split and scraped tule, and extra tule and/or cattail (for the duck's head) in water overnight.
5. Practice making a sample tule duck decoy

Discuss!

1. Review the vocabulary of the lesson.
2. Discuss the use of waterfowl decoys in modern hunting and in the Modoc culture of Lava Beds.
3. Ask students if they know what tule is and where it grows.
4. Discuss the use of plants and animals in indigenous American cultures' clothing and in modern American clothing (i.e. Tule, nettle, and sagebrush bark, bird skin, animal skin clothing compared to cotton and linen, wool and leather clothing).

Explore!

Plan a field trip to Tule Lake National Wildlife Refuge.

Have students walk quietly and observe the wildlife that lives in and around the tule.



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Tule

Suggested sites for harvesting tule:

- In flood control ditches
- Around golf course water features
- Around duck hunting preserves

Contact the appropriate agency or business for permission to harvest tule.

Remember that it is illegal to remove anything from National Park Service land.

Lesson Plan

Investigate!

1. Pass out copies of Student Journal: Birds and Modoc Culture.
2. Pass out samples of dried tule and dried nettle for students to look at and feel.
3. Pass out soaked bundles, string, and scissors.
4. Emphasize that it takes a lot of practice to learn how to make traditional tule decoys. They should experiment with the fibers and have fun and it doesn't have to look like the one in the picture.
5. Have students design their own ducks or use the following instructions.
6. Have students answer *Student Journal* questions
 - A. Begin with a prepared 2 foot, 2-3" diameter bundle.

B. Divide one side of the bundle into three segments– the first segment using half of the tules, the second segment using use 2/3 of what remains, and the 3rd segment uses what's left. About 3" from the center, wrap a piece of strong string over the first segment, under the second, over the third, then back under the third, over the second and under the first. (This method of binding together by over-under wrapping is called twining.)

C. Bend the bundle in the middle and continue on across to the other side, twining 3 segments together, going from smallest to largest.

D. Repeat the twining process another 3" down on the duck's body . Then sculpt the body to shape, making sure the base is open and wide. Tightly wrap string or twine around the end of the tules to form the tail. Cut off the excess tail at an angle.

E. Use tule to make the basic head shape, with each coil of tule passing through the top of the body. Make sure the neck sticks up only about 2".

F. Then wrap with a piece of split, scraped tule, inside facing out, until the desired shape is achieved.

G. Finish by running the end of the wrapper into the body and tying it off.

H. Allow the duck to dry overnight. Add paint and feathers as desired.

Adapted from Norm Kidder's instructions
www.primitiveways.com

Tips:

Check out the website www.primitiveways.com for more detailed instructions.

Wait a few days till decoys have dried before you paint or decorate them.

Invite students to research other plants used by the Modocs.



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Tule Seeds

Lesson Plan

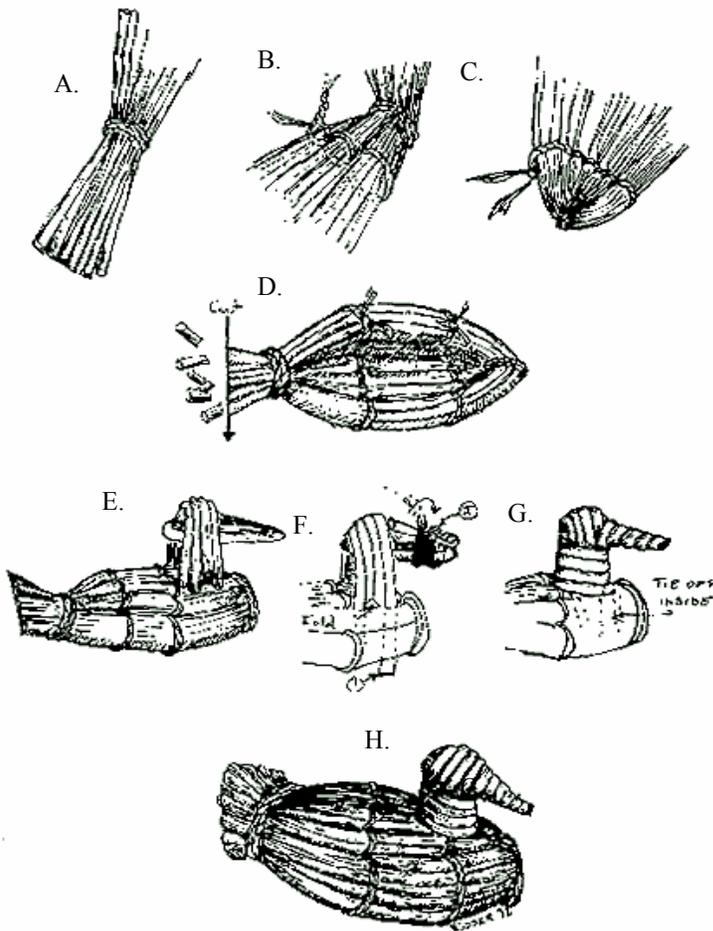


Diagram courtesy Norm Kidder
www.primitiveways.com

Suggested Questions

Why is tule an important habitat component for local wildlife and people?

What were challenges you encountered making your decoy?

What are some ways that the Modocs of Lava Beds used tule and other plants?

Follow-up!

1. Ask students 2-3 questions (see right panel for suggestions).
2. When decoys have dried, take them outside to a pond to test them. Do they float? Do they seem to attract ducks or other birds?