



Milwaukee  
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# SCIENCE & CULTURE OF BIRCHBARK CANOES

## Amazing Birchbark

To survive, Native peoples in the Great Lakes areas had to understand things from nature like wood, stone, bark, plant fibers, and leather. They also knew the best times of the year, and where, to collect. Turning things from nature into something usable and working with the scientific principles of **gravity and buoyancy** required understanding the natural world as well as skill and creativity. **They combined all these things to create the birchbark canoe: a light, maneuverable boat for hunting, fishing, and collecting food.**



The thickness of the bark determined its use. **Springtime bark was heavier and stronger. Thinner bark, peeled in the summer, was fine for things like mats and containers.** Small pieces of bark could be removed without injuring the tree, but to get the large sheets needed for canoes, the tree was felled. Earl Nyhold, a member of the Ojibwe Nation, walks through the woods of Madeleine Island to find and harvest birchbark and other materials for a canoe; watch his video [here](#).




Native Americans who lived in the woodland region used birchbark mats to roof wigwams and hold wild rice when it was spread out to dry. Smaller panels of birchbark were sewn together and engraved with a pointed tool to help spiritual leaders remember Medicine Dance rituals. They were easily rolled up into scrolls for storage. Even smaller pieces were shaped into cones and used as moosecalls during the hunt. Bark was also tightly rolled into a torch and lit, or sometimes used for other items. Gathering birchbark and fabricating items - other than canoes and scrolls - was done by women.

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### Crafting A Canoe

Tools and techniques for working wood and bark included stone, and later, steel axes for chopping; wooden wedges for splitting; chisels, gouges, and knives for shaping; and scrapers for smoothing. Besides carving with stone or metal knives, dugout canoes were hollowed out by repeatedly placing coals or embers in a hollow, waiting for the wood to char, and then scraping off the burned areas. Watch the process of making a birchbark canoe from beginning to end, and all the time, energy, and skills needed for this project [here](#). 

Canoes are an amazing technology. While they seem simple, they actually have several parts. **The covering of the canoe was made of birchbark. White cedar provided the skeleton, meaning the ribs, gunwales, thwarts, prow pieces, and flooring.** Another important piece was the **sewing elements, from the roots of the spruce, tamarack, or jack pine trees.** These long, shallow roots were dug out, brought to the camp, soaked in water, and then split and trimmed for sewing.

### Connection to MPM Research and Collections

**A canoe is an artifact, which means it's made by people.** This video from Curator of Anthropology Dawn Scher Thomae explains the study of culture through artifacts at MPM, watch it [here](#). 

This video from Curator of Botany Chris Tyrrell can teach you more about the defining features of trees and some common trees here in Wisconsin, watch it [here](#). 