

Design a Boat



People have been using oceans and rivers to travel around Alaska for thousands of years.

Try designing, building, and testing your own boat!

Note: Always supervise children when near water.

Materials Needed:

Shallow container of water, various floating materials (plastic lids or containers, popsicle sticks, aluminum foil, foam, egg cartons, birch bark, twigs, etc.), glue, tape, scissors, straws, towel for drying, other craft materials as desired (wax paper, rubber bands, string, yarn, toothpicks, etc.)

Instructions:

Step 1: Design a boat. Look at pictures of different boats for inspiration, test out materials to see what floats well, and draw a design for your boat. Think about how to make your boat lightweight, durable, and waterproof.

Step 2: Build your boat. Try different materials to see how well they work. Experiment with different designs. Be creative! *Note:* If you use glue, you will need to let your boat dry before testing it.



Step 3: Test your boat on the water! Fill a shallow pan or tub with water. Blow wind through a straw to move the boat. How well did your boat float? Did any water leak or splash inside?

Step 4: Make adjustments to your design. Not all boats will float perfectly the first time. Use your problem-solving skills to help them keep afloat!



Extension: Race your boat against a friend's boat. Which one travels faster? Try combining both designs to make an even better boat!

To discover more about boat designs, go to:

www.ankn.uaf.edu/publications/vs/design.htm

Water Travel in Alaska

People have been traveling across Alaska's landscapes for thousands of years, and one of the most common ways to travel is by water. Oceans and rivers are Alaska's highways. Explore different vehicles people use to travel on water!

Many people use small **boats** to travel on rivers in Interior Alaska. These boats are usually around 20 feet long and made of aluminum. Some boats have roofs to protect passengers from the weather, while others are open to the elements. People use these boats for fishing, hunting, traveling to seasonal camps and other communities, and recreation.



Boats on the Nowitna River. Photos by Emily Koehler-Platten.

Canoes are another popular vehicle for traveling on rivers. In Interior Alaska, Athabascan peoples traditionally made canoes from birch bark. Canoe makers stitched the bark hull together with split spruce roots, sealed the seams with hot spruce sap, and built the birch or willow frame inside. Different sizes and shapes of canoes were used for different purposes, such as hunting, fishing, and moving from camp to camp. Although modern canoes are made of different materials, some companies still use the same canoe designs.

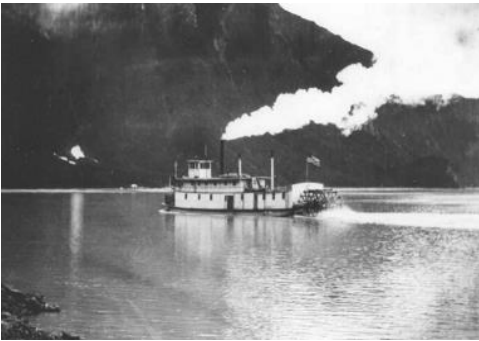


Birch Bark Canoe by Jimmie Charlie: EH0991-0001.



NPS Photo - Andrew Cattoir

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*Steamboat on the Copper River, 1908.
UAF Archives, UAF-2003-163-36m.*

In the late 1800s and early 1900s, **steamboats** were a common sight on Alaska rivers. As the discovery of gold brought thousands of people north, steamboats were the best way to transport people and goods during the summer months. Most steamboats could carry between 150 and 500 passengers at a time. The steamboat era in Alaska lasted until 1955, when the *SS Nenana* made its last trip.

In 1901, trader E.T Barnette traveled up the Tanana River on the steamboat *Lavelle Young*. When the boat ran into shallow water, the captain offloaded Barnette and his supplies on the banks of the Chena River. This was the beginning of the city of Fairbanks!



*SS Nenana sternwheeler in Fairbanks.
Wikimedia Commons.*



*Above: Umiak, Wainwright,
ca. 1945-1949
UAMN: 0538-0001A.*

Umiaks, large open boats designed to carry several people, are a part of Iñupiat and Yup'ik cultures. A wooden frame is covered with split walrus or bearded seal hides and sewn together with caribou sinew. Hunters use umiaks for bowhead whale, walrus, and seal hunting. Today, they mostly use outboard motors instead of paddles and sails. Although some people have switched to using metal boats, umiaks are still an important part of their culture.



*Right: Hunters paddling an umiak.
Photo courtesy of Alaska Eskimo
Whaling Commission.*

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In many regions of Alaska, people use **kayaks** (also spelled *qayaq*) to travel through ocean waters, hunt, fish, and transport supplies. Kayaks are small lightweight watercraft that could hold one, two, or three people. They are traditionally made from driftwood covered in seal or sea lion skins. Different regions and communities have different kayak designs, each suited to their particular needs. Today, kayaks are usually made from plastic or fiberglass. Kayaking is a common recreational activity today.



Yup'ik style kayak, pre-1966. UA87-011-0002.



NPS Photo – K. Miller

Many people in coastal communities rely on **ferries** for transportation. These large boats carry people, vehicles, and cargo on a regular schedule. In Alaska, the state ferry system currently provides service to over 30 communities across southern Alaska. Some ferries make daily trips to neighboring communities, while bigger ferries sail thousands of miles from Alaska to British Columbia and Washington. Larger ferries might have cabins for overnight stays, observation lounges, and even restaurants!



MV Malaspina in 2013. Photo courtesy Alaska Department of Transportation.



NPS photo.

Winter Travel

Frozen rivers make excellent roads in the winter! People use snowmobiles, dogsleds, and cars to travel on the ice. However, they must be careful not to travel on ice too late into springtime, as melting ice can be dangerous.