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Raft construction



Building rafts and navigating rivers and lakes is considered by many to be a dream outdoor experience and is associated with exciting stories such as Tom Sawyer. This article looks at different types of raft building and how they can be used in youth work.

Buoyancy chamber

The question of the buoyancy body is fundamental and is closely linked to the way in which the raft is used. A raft can only be used properly if the structure floats and the upper edge of the raft is not under water even when loaded by one or more people. This makes it clear that for every kilogram that is to be above the surface of the water, the buoyancy body in the water must provide a certain amount of water displacement. To put it simply: everything that is lighter than 1 kg per liter of volume (=1 dm3) floats. The lower the weight of the buoyancy body per volume liter, the more buoyancy is available and the raft can be loaded more for the same size. In other words, a raft for 4 people made purely of wood has a remarkably larger mass and correspondingly greater weight (approx. 1 ton) due to the poor buoyancy of the wood. In contrast, a raft built with a buoyancy chamber can be made portable for 4 people. The following materials are generally suitable for buoyancy in everyday life at the youth club:

- Wood
- Truck skids
- Garbage cans (plastic or metal)
- Sagex
- PET, or similar

The fact is that the romantic solid wood boat is unsuitable for trips on our rivers and lakes due to its weight and therefore inertia. For a fixed raft on the lake, however, wood offers everything you need for a cool bathing platform. It is advisable to have two thick logs across the width as the main buoyancy body and thinner logs on top as the platform and buoyancy body, connected with cross or transverse straps. The main buoyancy bodies should in turn be connected crosswise to other logs so that the raft is laterally stable. **Important:** The raft must be built large enough so that it cannot be tipped over by human weight.

Use of the raft

As already mentioned, the first question that needs to be clarified is how the raft is to be used. Even a very simple and not really stable raft can be used to cross a river, i.e. the raft is pulled from one side

to the other, e.g. on a hike. Even this can be an impressive experience for children. Other possibilities are

- Fixed at a lake
- Tours on the lake
- Tours on the river

Raft with truck tubes

The raft with truck tubes is ideal for crossing and touring on the river.

Advantages:

- Tubes may be included in the mat
- Easy to inflate, small to stow away
- enormous buoyancy thanks to air
- robust tubes can also rub over stones; the tubes give way while other fins would sit up.
- tubes tied together are already relatively stable, construction is possible purely with pioneer technology

Disadvantages:

- Very high resistance in the water - practically unsuitable for locomotion by rowing
- Although air in tubes provides a lot of buoyancy, the tubes cannot be tied together compactly enough and have a "hole" in the middle.

Construction

Depending on the size of the raft, 4 tubes, i.e. 2 on 2 (for a translation boat 3 on 3), or 2 on 3 or even more are tied tightly together with straw cord or similar.

Using the pioneer construction technique, branch by branch is laid over the tubes and tied together. (net structure) or: A scaffold is screwed together from double slats and formwork panels and then tied to the tubes with straw cord.

Navigating rivers

Safety

In Switzerland, rafting on rivers with children is only permitted when accompanied by experienced guides with a J&S water activities safety module and the corresponding SLRG training (river module).

Rafting on the lake is considered a normal water activity (SLRG lake module).

Rafting on rivers generally requires leaders with SLRG training with the river module.

Raft trips with children should only be carried out by experienced guides. Clear knowledge of the river etc. is required. The SLRG and J&S guidelines apply!

Legal aspects (2.5 m rule)

Rafting is also legally restricted. In Switzerland, this varies from canton to canton except for a few basic principles. In some cantons, raft trips go beyond the normal permitted public use of the rivers and are considered a so-called nautical event (e.g. TG) and must therefore be approved by the authorities (authorization from the municipality for launching and retrieving water, raft is inspected by the police before use, event insurance must be taken out, etc.)

However, rafts are only considered to be floatable constructions from a size of 2.5m. Smaller rafts therefore theoretically do not require a permit. However, on lakes with fins of this size, you are not allowed to leave the shore area for 150m, which is not recommended anyway.

Further information

Further information on water activities under J+S and SLRG can be found in the article "Planning a water activity".

Proof of source

Cover picture: Provided by the Jungschar Stami St. Gallen

Weitere Informationen

Categories
Technology and outdoor activities

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