



Scouts on the water! A Rafting Adventure



Kon-Tiki – probably the most famous raft of all time!

What will we learn about this week??

We will look at all aspects of a rafting adventure for a watch/patrol or a troop.

Rafting can be a simple, fun and cheap way to get on the water. Preparation for rafting can provide a number of weeks of programme and skills building across numerous disciplines. It's all about experimentation and learning by doing (and then re-doing!) so have fun!

Have fun and why not challenge a local troop to a raft race?

May on the water resources

These resources are produced by the **Sea Scout Team** for the Scout Team to encourage everyone to learn about and get on the water this Summer!



SCOUTS



Contents

This guide contains lots of what you need to know to take on a rafting adventure, including:

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The Sheer Lashing

Start with a Clove Hitch around one pole. Twist short end around long and wrap the rope around both poles, alternately going over and under each pole about three or four turns. Tighten the lashing by surrounding it with three or four frapping turns. Finish with a final Clove Hitch.

Possible uses of a sheer lashing

- As an emergency measure with a broken mast
- As an emergency measure with a broken oar or paddle
- To erect a tall flagpole

We can think of 3 reasons why you might use a sheer lashing:

Can you think of more???





The Square Lashing

Start with a Clove Hitch or indeed a Timber Hitch (as in this image) around one pole.

Twist short end around long and wrap the rope around both poles, alternately going over and under each pole about three or four turns.

Tighten the lashing by surrounding it with three or four frapping turns. Finish with a final Clove Hitch.





Equipment

Buoyancy

The most important thing about your raft is that you need something to keep it afloat .

Anything that floats will work. Inflated tractor or car tubes, (your local tyre centre or garage may usually give you these free of charge), steel oil drums with lids, plastic barrels, plastic bottles or polystyrene blocks could work. It is even possible to make buoyancy from inflated and tied black plastic sacks if you are careful.

Plastic barrels tend to be the most common but you should be sure to check the buoyancy of each one before getting afloat! As a rule of thumb, a 200 litre drum will float $\pm 100\text{kg}$ at 50% depth, but you will need to experiment.



Even old bottles will float!

Equipment

Structure

Timber poles or plastic pipes are normally the most commonly used items in Scout rafts.

Plastic or PVC pipes have the advantage that they can be also used as the buoyancy element meaning that you can use a lightweight platform to support your rafters, think timber sheeting or suitable plastics.

The lighter your structure, the faster you will go, just remember that it needs to be durable enough to hold your rafters!



A raft using sealed PVC piping

Equipment

Paddles, Oars etc

All aspects of your raft can be made by your rafters. Be cautious about protruding sharp edges or any stray screws or nails. It might be worthwhile to bring in an expert craftsman to assist. There are lots of plans [online](#).

It's probably best not to use double-ended paddles in a confined space as the rafters may end up tangled.

Remember that a good rhythm and a consistent stroke will give your raft much more speed!



Rope

Natural fibre ropes like manila will tighten when wet, resulting in tighter lashings on your raft but this can be difficult (and expensive) rope to source. Its proper care and storage is also important.

Manmade rope like polypropylene is light and it floats but it may loosen with the weight of your crew.

Experiment in order to find the right one for your team.



Designs

Coracle

A large lorry or tractor tube and some builders plastic sheeting craftily assembled can make a traditional coracle for one person, or even possibly two.

As you can probably get the tube for free and builders' plastic sheeting is quite cheap, you can get afloat for next to nothing.

Remember to put some supports in the bottom, like old carpet to spread the weight on the floor.





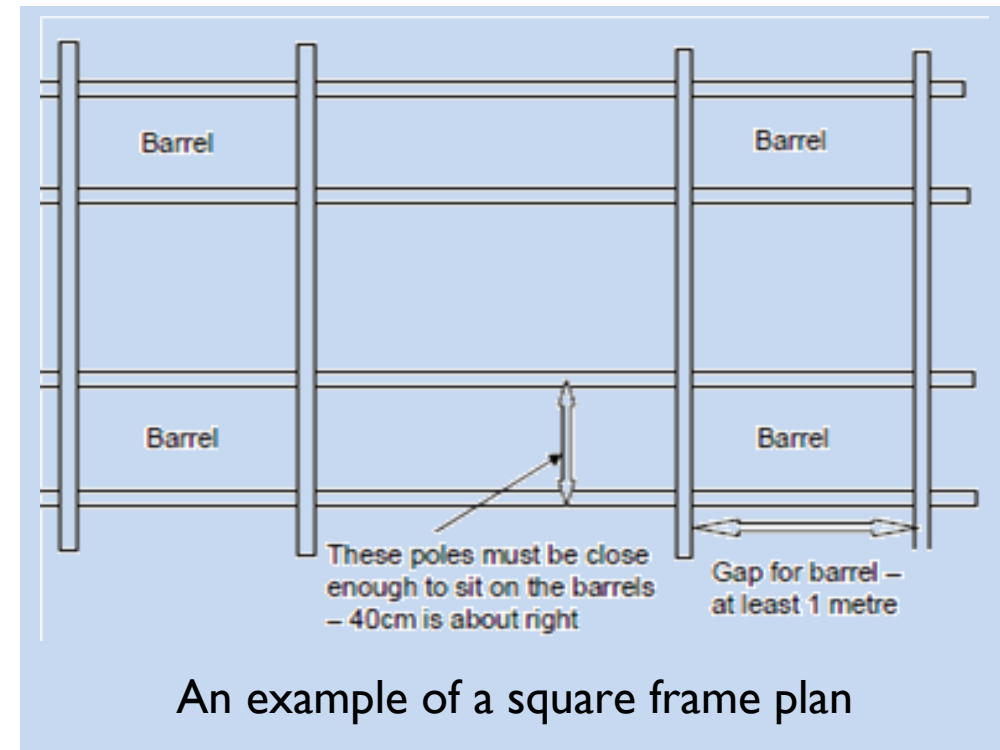
Designs

Square Frame

A securely lashed square frame can have four large inner tubes lashed to it and a raft for two or four people can be quickly assembled.

If you are using barrels ensure they are free of any chemical or oily residues, which would cause pollution or harm you or the environment.

Each litre of buoyancy should support 1kg. Don't forget the weight of the spars and the barrels or tubes, remember the more buoyancy, the higher (and drier) you will float. Decide how many people are to be kept afloat. Sometimes it's better to build two smaller rafts rather than one huge one. Remember you are going to have to carry it on and off the water.



Propulsion

Option 1 Paddling

Paddling is the simplest and most common way to propel your raft forward. Coordinated and strong paddling will move your raft quickly and smoothly.

Research different strokes and see what works best for you.

Double ended paddles may not be the best idea if you have a larger crew as they might be quite awkward.





Propulsion

Option 2 Rowing

Rowing is an interesting step-up for those who may have already rafted using paddles. You will need to fit spurs to operate the oars and possibly use some sort of rudder system for steering. Such a raft will most likely need to sit quite low in the water in order to operate effectively.

Your watch/patrol may need to practise this one a bit on land first to ensure that it will work!



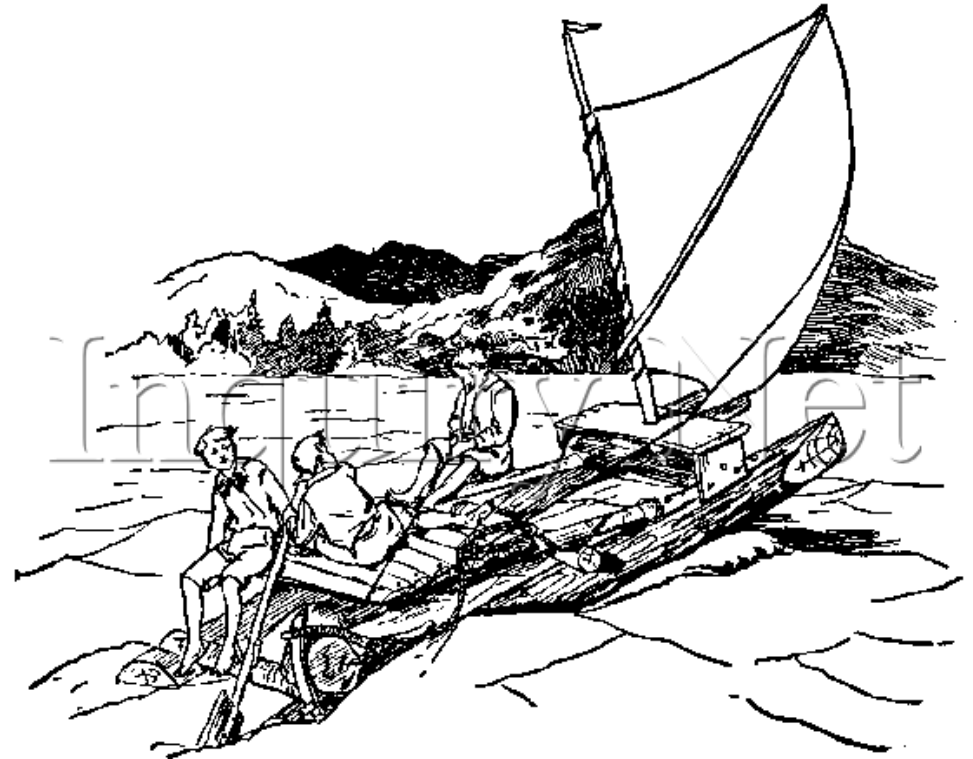


Propulsion

Option 3 Sailing

If you are brave and ambitious you may try to rig your raft for sailing. This is not easy and requires a certain amount of sailing experience. Your raft will need a keel and a rudder. Your mast should be secure and made of an appropriately strong material.

This is a project for ambitious rafters with good knowledge of sailing and an alternative method of propulsion (ie paddles or oars)!



Propulsion

Option 4 Punting

The punter generally propels the punt by pushing against the river bed with a pole. A traditional punt has no tiller nor any provision for oars, sails, or motor; instead it is propelled and directed with a pole.

The basic technique of punting is to shove the boat along with a pole by pushing directly on the bed of the river or lake.

It's pretty much a one person activity but it might suit your troop. Racing individual rafts by punting sounds like great fun to us...



Punting in action on a river punt in Cambridge

How to punt!

Facing the front of the raft, put the pole in the water. Lean it forward and push off. Work your way up the pole hand over hand until the pole trails behind you. The pole has now become a rudder. Keep holding the end of the pole, leaving as much of it floating as possible. To turn right, sweep the end through the water to the right. When you point in the desired direction, raise the pole up, drop to the bottom and repeat.



Propulsion

Option 5 Waterwheeling

Water wheeling uses paddle wheels to propel the craft through the water.

The paddle wheels could be turned using feet (like a pedalo) or arms to turn a crankshaft. There is a lot of pre-preparation in this project but it as unique a raft as you are likely to see in Irish Scouting.



A paddle wheel boat mechanism from the middle ages



Propulsion

Option 6 Fixed Lines

A fixed rope line running across the water a river or narrow lake is a great option, especially for younger Scouts.

The idea is that a line is tied from bank to bank and those on the rafts must pull themselves across to the other side as quickly as possible.



Safety

1. **Appropriate Supervision**

- The person in charge should be of sufficient proven skill to oversee the activity
- There should be some sort of rescue structure in place. While rafting normally takes place in shallow water, there should still be sufficient provision for rescue. Appropriately skilled kayakers or a small powerboat should be sufficient in most cases

2. **Physical Fitness**

- The person in charge should be sure that all rafters have sufficient fitness for the rafting adventure

3. **Swimming Ability**

- The person in charge should know the swimming ability of all participants and have sufficient safety arrangements in place to account for weaker swimmers.



Safety

4. Personal Flotation Equipment

There are few water activities where you are as likely to end up in the water as rafting. Therefore it's important that **each Scout** is wearing a working Personal Flotation Device of at least 50N buoyancy.

5. Buddy System

You should have a simple plan for what will happen in the event of a Scout falling from the raft or in the event of capsizing or sinking. A key part of this should be a buddy system where Scouts are paired off and should keep an eye on one another throughout the activity.

6. Skill Proficiency

Each Scout should know the limits of her/his ability and should have enough skills to carry out the activity safely and enjoyably.



Each year Scouts South Africa holds the Kon-Tiki rafting competition which requires teams of 6 to build and live on a raft for 24 hours.

How's that for a challenge??

Rafts must include bedrooms, toilet and cooking area.



Safety

7. Planning

Choice of location is covered in the next section. Tides & currents should be considered. Your rafting adventure should not interfere with other water users. You should ensure that your activity will **Leave no Trace** on, in or near the water.

8. Equipment

It is advisable that rafters wear a helmet. They are lots of hazards, not least using paddles in a tight space and hard surfaces on the raft itself. Rafters should wear hard-soled shoes throughout, particularly if the water is shallow and the nature of the bottom is not known.



9. Discipline

Crews should have an idea as to how best to distribute weight on their rafts. They should also have discipline in a capsize (knowing that they should stay with the raft and use the buddy system) and have an emergency plan

10. Weather

A drop of rain won't harm well prepared (and appropriately dressed) Scouts but a gusting and unpredictable wind could have a huge effect on everyone's enjoyment. Have a weather forecast and make decisions based on it.

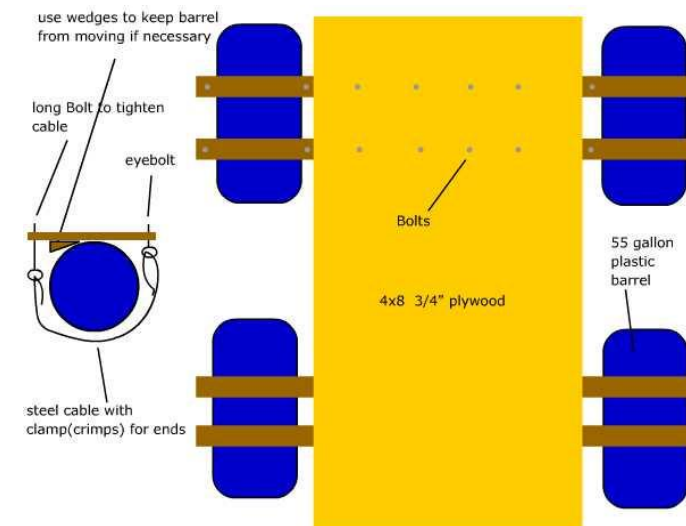


Choosing a location

Choosing a location is crucial given that rafting can mean quite a lot of bulky equipment. Here are some tips for choosing your location:

- You must have **familiarity with the location!** You should have some understanding of the water body you are using and what the inherent dangers are;
- **Flat water or moving water?** You need to take into account that moving water (like a river) will require more rescue cover and significantly more experienced supervisors ;
- What is the **depth** of the water? Does it change? Can rafters stand in the water? Are there any significant currents?

- Are there any **hazards in the water**, like rocks, reeds or manmade structures?
- Is there appropriate **access** to, and egress from the water? There's no point building rafts that cannot be gotten on to the water easily!
- Will your activity hamper **other water users**, either recreational (kayakers, sailors etc) or professional (fishermen, Coast Guard etc)?
- Are you likely to disturb any form of **marine life**?
- How is parking? With bulky equipment, you will need a lot of loading and unloading space...





Leaving no Trace

Leave No Trace is an ethical approach to living. It is about taking **personal responsibility** and has 7 principles:

1. Plan ahead and prepare
2. Be Considerate of Other Users
3. Respect Wildlife
4. Travel (and Camp) in appropriate areas
5. Leave What You Find
6. Minimise the Effects of Fire
7. Dispose of Waste Properly

The Sea Scout Team has a resource on **Leaving no Trace** while afloat. You should consult this prior to your activity.



Checklist

- ✓ Safe waters chosen
- ✓ Proper safety precautions in place
 - Radios in use and checked
 - Rescue infrastructure
 - Emergency plan known to all
 - Qualified first aider onsite
- ✓ All equipment suitable and safe
- ✓ Rafts checked before they enter the water
- ✓ All participants have a working lifejacket or buoyancy aid and a helmet
- ✓ Weather forecast has been obtained and shows no unacceptable risks
- ✓ Non-swimmers have been identified
- ✓ All rafts have along rope attached, which can be thrown to a rescuer or to a person overboard

Remember! Don't be afraid to postpone or to change the plans if there is a good reason to do so!





Additional Resources

The Scouting Ireland Boating Guidelines – your safety bible!!

