



Drinking water outdoors – filter and boil

AT A GLANCE



Place

Outdoors, a place with a fireplace or gas stove



Key idea

Understanding how to get safe drinking water on the way – and why filtering alone is not enough



Effort

Materials 20 min · Preparation 30 min



120 minutes



teams of 3–4



12–16 years



stove or fire



Materials

- ☐ per team a cut PET bottle (bottom off, holes in the cap)
- ☐ gravel, sand, charcoal (from barbecue supplies, crushed)
- ☐ coffee filter or cotton cloth
- ☐ muddy water from a stream or puddle in buckets
- ☐ pot, stove or fireplace, cups
- ☐ a clean bottle of tap water for comparison



Schedule

0–15'	Opening – Three cups: tap water, stream water, puddle water. Which would you drink – and why?
15–55'	Building filters – Bottle upside down: fill in layers of cloth, charcoal, sand and gravel, then let muddy water run through.
55–75'	Comparing – Look at the filtered water: clearer, but far from clean – you cannot see germs.
75–95'	Boiling – Bring the water to a rolling boil, let it cool. Rule: filter first, then boil.
95–110'	Devotion – Jesus and the woman at the well (John 4:1–14): water that really satisfies our thirst.
110–120'	Closing – Tidy up, dispose of filter material, closing round: what will I take away?



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How it works – simply explained

- 1 Cut off the bottom of the bottle and make holes in the cap.
- 2 Hold the bottle upside down and fill from bottom to top: cloth, charcoal, fine sand, coarse gravel.
- 3 Slowly pour the muddy water in at the top and catch it in a cup underneath.
- 4 Throw away the first cups – they rinse the filter.
- 5 Boil the filtered water for at least one minute before anyone drinks it.

 **Example:** “Looks clear, doesn’t it? There can still be bacteria in it. So on the way the rule is always: filter first, then boil – or bring water with you.”



Safety

- Filtered but unboiled water is not drunk.
- Stoves and fires only with a leader, keep water ready to put them out.
- Hot water only in stable pots, keep your distance.
- Never use water from ditches next to fields or roads.



Variations

- Competition: which team gets the clearest water?
- On a hike: plan a real water source and calculate how much water each person needs.



Something to think about

What really satisfies your “thirst” in life – and what only for a short time?