

# Cotton and wool



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## Different or the same?

### Shrinking – not shrinking?

How do cotton and wool behave when washed hot?

You will need

- pieces of fabric (cotton and wool), which are exactly 10x10 cm in size
- thread, which is exactly 10 cm long
- detergent
- hand washing machine (or a washing bowl)
- water (60°C)
- thermometer
- Stopwatch

### How to do it

1. Put the piece of fabric and thread in a pot.
2. Add 1 L of 60°C hot water.
3. Add 6 g of detergent
4. Wash everything for 15 minutes and stir thoroughly.
5. At the end, take the piece of fabric and the thread and wring them out.

**Watch out for hot water! Let an adult help you.**



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Different or the same?

## Dyeing cotton and wool

How well do the two fabrics dye?

You will need:

- Cotton and wool threads
- Cotton and wool fabric piece
- 2 beakers with colored lemonade

**What differences can you notice between cotton and wool?**

## How to do it

1. Take a cotton thread and a piece of cotton fabric and put both into one of the beakers.
2. Now take the woolen thread and the piece of woolen fabric and put both into the other beaker.
3. Fill up the beakers with lemonade.
4. Stir both beakers continuously for 10 minutes.
5. After 10 minutes, take everything out of the jars and give the pieces a quick rinse under the faucet.
6. Pat the threads and fabric pieces dry with a paper towel.



What differences can you notice?



# Further information

For parents and teachers



## Context

This experiment is part of a holiday course on washing. Not only detergent ingredients are dealt with. The children also learn about different types of textiles. In particular, we look at the properties of wool and cotton.

## Cotton

Cotton is of plant origin. The long fibers of the fruits of the cotton bush can be used to produce yarns, woven fabrics and knitted goods. The fibers consist of cellulose, are very water absorbent and resistant to alkalis. Cotton fabrics can be washed well at high temperatures.

## Wool

Wool is of animal origin. Sheep's wool fleece is also good for spinning fibers that can be further processed into textiles. Chemically, the fibers consist of proteins. Unlike cotton, sheep's wool does not tolerate hot suds - it felts.

