

**Instruments:**

- 2 balloons
- water bath
- water colder than the water bath
- water warmer than the water bath

**Experiment:**

- Fill the water bath with water. Fill the two balloons: one with water colder than the water bath, one with water warmer than the water bath.
- Make sure that the balloons have absolutely no air bubbles in them.
- Now hold both balloons in the water bath.

**Observations:**

The balloon filled with warmer water floats upward; the colder balloon sinks.

**Results:**

At higher temperatures, water expands, meaning increased volume and lower density. This means that the water in the warmer balloon is less dense and thus rises. The cooler balloon is denser than the water in the bath and therefore sinks.

Template can be found online (in German):

<http://portal.tugraz.at/portal/page/portal/Files/i5110/files/Forschung/Thermophysik/DA-RobertSchantl.pdf>