2.4 Distillation

Basic information and collecting ideas 	Distillation can be used to separate substances with different boiling points, for example salt water. Water has a boiling point of 100°C, salts about 800°C. As drinking water becomes increasingly scarce on earth, drinking water is produced from salt water more frequently. To save energy in salt water distillation, you can use the energy of the sun (solar distillation).
Setting up and conducting experiments 	The water vapour condenses best in a cool glass or cup. The condensed water can be tested for conductivity with a multimeter (resistance measurement): the higher the resistance, the lower the salt content.
Observing and documenting 	
Analysing and reflecting 	▪ Energy consumption ▪ Alternative energy from the sun ▪ Alternative methods instead of distillation (solar distillation, ion exchange, reverse osmosis, etc.)
Doing further research 	You will need a big and a small container, plastic wrap and a stone. ▪ One fills a glass bowl half full of sea water and puts a smaller glass bowl, which is empty, into the large bowl. ▪ Now cover the large bowl with plastic wrap and use a small stone to form a cavity in the plastic wrap. ▪ If you place the bowls into the sun, the evaporated water condenses on the plastic wrap and drips into the small bowl as drinking water. Consumption of safe water per person per day?
Technical and vocational application 	▪ Many technical devices (cooling systems, production equipment, etc.) require salt-free water to prevent corrosion. ▪ **Business:** Production of distilled water (startups) ▪ **Communities, lack of drinking water:** the conversion of sea water to drinking water

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