

Worksheet 1 (answer sheet): Evaporation heat – How to cool with heat

Task 1

Dip a towel in water or alcohol. Place the damp towel onto your hand and fan air over it.

Task 2

Imagine that a scientist answers a student's questions on this experiment. Think of appropriate questions to the answers and write them into the speech bubbles. Note: Not all words from the wordlist must be used to construct the questions.



Wordlist

| | | |
|----------------|-----------|-----------|
| water | fan | evaporate |
| alcohol | energy | extract |
| bowl | heat | damp |
| towel | cool down | boil |
| cooling effect | faster | stronger |

Why does my hand cool down when I place a damp towel on it?



During evaporation the water turns into its gaseous state. Energy is required for this. This energy is extracted from the hand. This causes cooling.



Why is the cooling effect faster when the towel is being fanned?



The evaporation of water depends on the air's humidity. The evaporation is faster in dry air. By fanning the air over the towel the moist air is replaced by the surrounding dry air.



Why is the cooling effect even stronger if I use alcohol instead of water?



Alcohol has a lower boiling point than water and therefore evaporates faster. As a result, the cooling effect is greater than for the evaporation of water.

