

## 5.4 Waste separation



How would you separate a mixture consisting of sand, plastic, water and salt?



First, think about the state of the substances in the water and their properties and how they differ from each other.

Make a plan with an order in which the substances can be removed from the water.



### Set up:

- multimeter
- filter paper or newspaper
- scissors
- 1 plastic cup 100 ml
- 2 plastic cups (clear) 500 ml
- filter sand/clean sand
- table salt
- 1 teaspoon
- tap water
- tea light/candle



Consider a reasonable sequence of separation procedures so that only drinking water remains.



Observing and documenting:

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Analysing and reflecting:

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- How could you use your knowledge to separate different plastic materials?
- Cut about 1x1 cm pieces of various plastics and place them in a cup filled with water. Identify polyethylene and use the list to suggest how to separate polystyrene from PET.

Plastic	Density (g/cm <sup>3</sup> )
Polyethylene	0.96
Polystyrene	1.05
PET	1.38



Technical application and vocational orientation:

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### Space for your sketches