### Documentation for the teaching material »Open tasks«

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<th>Staatliche Regelschule Friedrichroda (grades 5-10)</th>
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<td>8–10</td>
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<td>Jörg Triebel, Karl-Heinz Nießler</td>
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Examples for »Open Tasks« in chemistry lessons

Task 1

The sewage of a metal company is to be treated. Therefore, an employee puts a larger amount of Quicklime to the stabilization pond.

Some of the neighbors watch and comment on it like this:

Neighbor A: »Is it necessary to throw in something else? There’s enough chemicals in there!«

To this Neighbor B answers: »He only neutralizes the wastewater.«

»Why can’t he take the same simple lime that I use for my garden?!«, says Neighbor C.

Take part in this discussion!

General Expectation

The student

- discusses all three opinions,
- comes to the conclusion that the semantic content increases from Neighbor A to Neighbor C,
- formulates his own opinion and
- rationalizes his opinion.

The following issues should be considered:

- higher time effort (1)
- the creativity can be advanced
- precondition is always the presence of certain professional and methodological skills of the student
- therefore, these should be developed by applying a variety of teaching methods

This requires:

- the cooperation of teachers
- working in context
Examples for »Open Tasks« in chemistry lessons

Task 2:
At the Miller’s the basement is flooded with water.
The diagnosis of plumbers is: House infarction!

- How did the plumber come up with this diagnosis?
- Develop strategies for future prevention of this problem.

Group work of up to three students is possible.

General Expectation

Workflow:
- disambiguation
- transfer: biology, medicine, causes
- solution strategies

Methods:
- media relations
- analysis, hypothesis
- networking of specialized knowledge
- experiment
- conclusions

Contents:
- lime, corrosion, dirt
- reaction equations
- different levels of development

Special characteristics of these open tasks:
- multiple solution ways, multiple solutions
- linking of skills
- different theoretical levels possible