Teacher guide: On the scrap heap

Abstract
The workplace is the car industry where auto parts like exhaust pipes have to be saved from corrosion if stored/used. Students are supposed to plan and conduct structured experiments that provide evidence on the conditions that are best met to save the parts from corrosion. They are supposed to provide an advice sheet with the different conditions.

Discipline: chemistry
Age group: 14-16 years
Time: 100 minutes (2 separate lessons à 50 min)

Example lesson plan:

Lesson 1

10 min	Students are introduced to the situation in the workplace (car industry); this can be done by a short videoclip (problem of corrosion in the car industry) or by bringing original material (corroded exhaust pipe).
10 min	Students get their task and are introduced to the equipment
15 min	Student plan the investigation
15 min	Small group discussions on the different planned set-up; which one is best to come up with good results? (as the set-up mostly has to be stored for a time to see effects, it is useful to have two separate lessons and stop here)

Lesson 2

20 min	Students observe the experiments and discuss results within their group
10 min	Plenary discussion of results
20 min	Students work on an advice sheet about the conditions that should be met to avoid corrosion

Material:
Possible videoclip for problem statement (first 30 sec only)
https://www.youtube.com/watch?v=4I6K0INWHIs

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