



How does salt affect our vehicles?

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About the project

The project was done by seventh graders (aged 13-14 years) in different classes throughout the year.

Purpose

To develop the pupils' ability to prepare and to perform an investigation and then transform the results into knowledge.



Execution

a)

First the pupils investigated how salt is effecting the freezing point of water.



The pupils took two plastic cups with holes in the bottom. Both contained crushed ice and then they put salt in one of them (the left one). The temperature in the cup with salt sank quite fast to -10°C and the ice started to melt even though the temperature was below zero.

b)

The pupils investigated how salt effects iron nails.

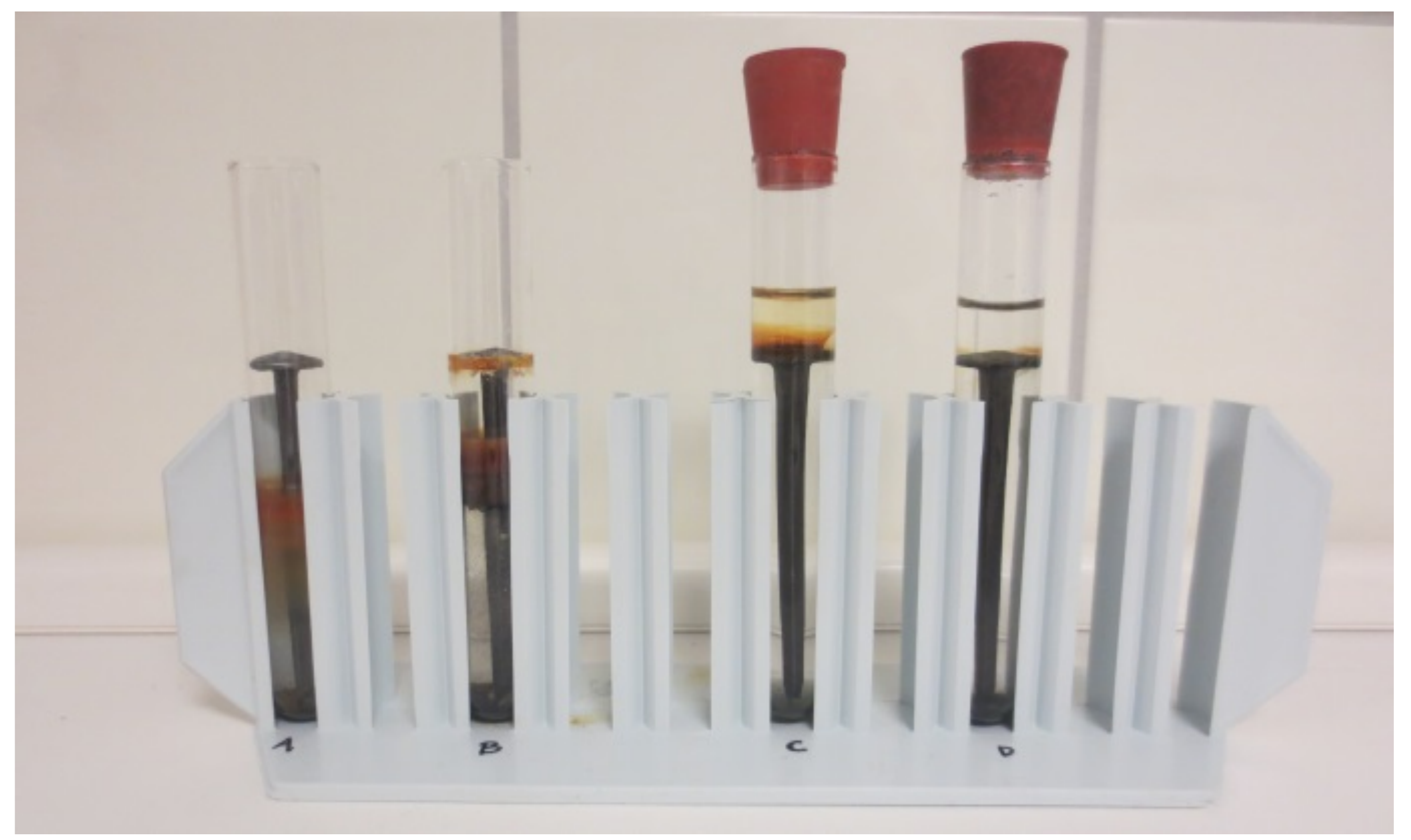


The nail in test tube A was covered with water from the tap.

The nail in test tube B was covered with salt water.

The nail in test tube C was covered with boiled water and had oil on top of it to prevent oxygen to reach the water.

The nail in test tube D was covered with boiled water without ions.



After a few weeks the result was as shown above.

The nail in tap water got rusty at the water surface. The nail in salt water got rusty on the parts that were above the water surface. The nail in water without oxygen got a little rusty and the nail in water without ions didn't get rusty at all.

Conclusion

The pupils enjoyed the investigation. That made them understand a lot of about the problems they had heard about cars during the winter. They came up with a lot of new questions that could be examined. For example:

1. Why do cars get rusty faster in Kristianstad than in the northern part of Sweden?
2. Is it possible to use something else instead of salt?
3. How does salt affect other materials than iron?
4. Does salt affect the environment?

