

Activity 10 – Consequences of Ocean Warming

Why does ocean warming increase global warming?



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Implementation:

Distribute the acid solution over the two small beakers and put one of the beakers aside for later comparison.

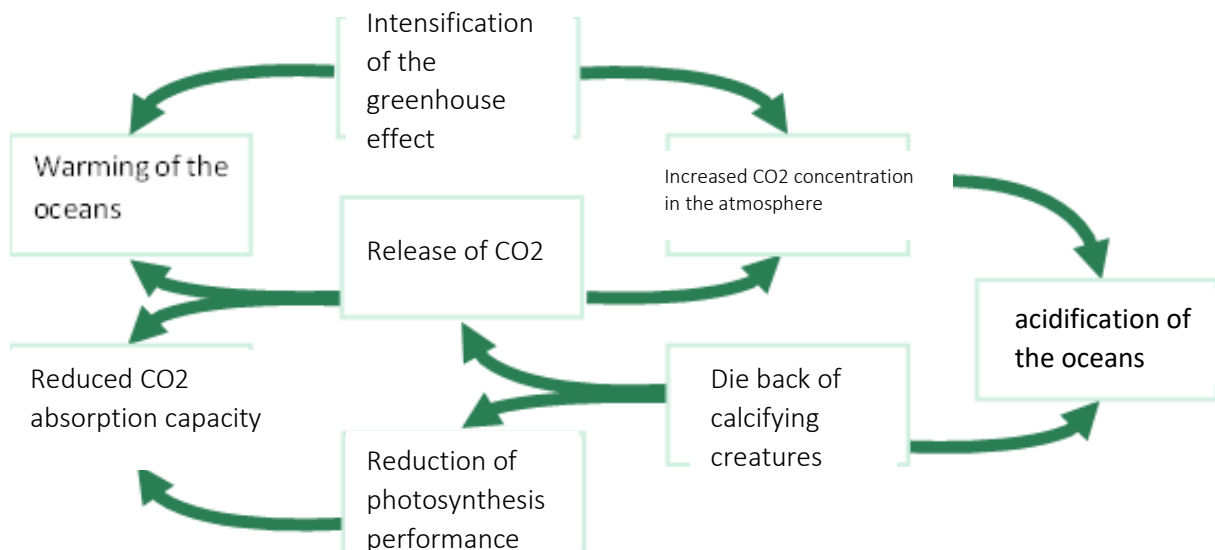
Heat one of the two beakers with acid solution over the tea light for about three to four minutes until you can make a clear observation.

Observe the colour change and after some time note the pH values of the two solutions.

The heated liquid becomes darker. This means the PH value increases again and the solution becomes less acidic! The previously added CO₂ is released again

Evaluation:

Complete the following flow chart with the text modules given here:



The process by which the oceans dissolve CO₂ and release it again when the water is heated corresponds to the experiment.

However, the oceans do not cool down again like the water in the beaker. It was also neglected here that water vapor is also released. The water vapor, which is produced to a greater extent by the increased water temperatures, is much stronger as a greenhouse gas than CO₂ and thus leads to an additional intensification of the greenhouse effect. In addition, the CO₂ in the water dissolves the lime of e.g. corals and thus releases extra CO₂.