



Seeds

Title	ACIDIFICATION? NO, THANKS!
Description	<p>The “precautionary principle” urges us to start and carry out research and surveys, based on an experimental approach, so as to make conscious decisions in the environmental field. Environmental systems are in fact extremely complex and it is difficult to foresee their possible evolution.</p> <p>The increase of carbon dioxide levels in the atmosphere leads also to a higher level of carbon dioxide dissolved in seawater with the consequent formation of carbonic acid, thus increasing the level of acid in surface seawater. With a pH usually ranging around 8.2, oceans are naturally alkaline, but scientific data indicate that the present readings show lowering pH levels. Increased acid levels can seriously compromise the marine ecosystems and related food chains.</p> <p>An “extreme” and provocative test to observe the reaction of organic substance in the presence of acids.</p>
Materials and Time needed	<p>Materials for the test: a glass jar with a lid, 1 egg, white vinegar, 1 tablespoon.</p> <p>The kit will supply: a pH meter</p> <p>Time needed: 5 minutes + 24-48 hrs for the reaction to be fully completed.</p>
Instructions	<ul style="list-style-type: none"> • Put an egg into a glass jar • Cover it completely in white vinegar • Put the lid on the jar and leave it for 24 hours • Retrieve the egg with a spoon and gently rinse it under running water (or in a bowl) • If necessary, put the egg back into the jar, covered in vinegar, for 24 more hours and eventually rinse. <p>Calcium carbonate, which the egg-shell is made of, reacts with acetic acid, developing carbon dioxide (see the bubbles and froth) and the egg-shell dissolves. Only the testaceous membrane (a very thin layer) remains to contain the egg.</p>
In-depth study	<p>Take the pH reading of various liquids and different kinds of water.</p> <p>Address yourselves to the issue of ocean acidification, as a consequence of carbon dioxide emissions into the atmosphere. Causes, data, consequences.</p> <p>Research scientific literature and read the studies about the impact of increased acid levels on aquatic ecosystems.</p> <p>Address the issue of acid rains, as a consequence of air pollution. Causes, data and consequences on vegetation and soils.</p>