

Investigating the Effects of Acidity on the Strength of Rocks

Gemma Stone

Pebble Middle School, Boulder, Colorado

As pollution production has increased in recent years, acid rain has become a more prominent problem causing damage to our natural ecosystem, damaging plant and animal health. While I was looking at areas with lots of acid rain, I noticed that the rocks looked more porous and broken, so I questioned if an increase in acid rain would weaken rocks, which may then damage natural or man-made rock structures. I hypothesize that if rocks are kept in an acidic environment, then the rock will weaken tremendously. I collected rocks from a beach near me that were equal in size, shape, and color. Rocks were left in either lemon juice or water overnight and then I tested their strength using the Moh's hardness test. I found that the rock in lemon juice was scratched easier than the one left in water. Based on my experiment, I can conclude that more acidic solutions cause rocks to weaken in strength.