

A Classroom Demonstration for *The Life of a Leaf*

From www.press.uchicago.edu/sites/vogel/ Created by Steven Vogel svogel@duke.edu

Compressing Water (Page 199):

That liquid water can resist compressive loads doesn't have the startle-value of water as a tensile material. But we rarely think about it and even less often realize how ordinary is the phenomenon. So-called "hydroskeletons" find use in a wide variety of animals and plants, enough so finding one that doesn't ever do so isn't easy.

Comparing the resistance of filled and empty soda-pop cans to compression ought to lend considerable support to the idea. In practice, one puts cans between two boards or board and floor and climbs up on the resulting platform.

This particular 10-stone (140 lb, 65 kg) human can be supported on four cans; I haven't enlisted my more gravitationally-endowed friends to test the limits. In any case it might be a good idea to hold onto the top of a chair until confident that one will indeed be supported. If support fails, one of course gives new meaning to the term "soda pop."

The chair (or desk) is crucial if you want to crush empty cans as a real-time component of the demonstration. Not only are you going to drop about six inches, but the four cans will not likely collapse in perfect synchrony. Be careful!