**Consequences of pH Change for Fish**

Here's an image: you are handing a student one pound weights.  Let's say a one pound weight is pH 9 and you are going to move that student to pH 8. If you add 10 one pound weights to the student at a rate of one every 15 seconds, it's no big deal.  Then if you move that student to pH 7, still at the rate of one pound per 15 seconds, that student will eventually end up with 101 pounds of weight to manage(remember 9 to 8 was 10 times 1 for a total of 11 pounds. Then 8 to seven was 10 times 11 for a total of 110 lbs. And they probably will be able to handle it because they've been slowly adjusting to the change. But if you take that student and move them from pH 9 to pH 7 in 15 seconds by carefully handing them the extra weight, they will probably have a lot of difficulty suddenly holding 109 extra pounds, especially if you sort of toss it to them rather than carefully handing it off.

The weights represent the extra hydrogen ions the fish has to deal with as pH decreases. The time is the relative rate of change. The toss represents the additional physiological stress of dealing with the change in an unreasonable amount of time.  This works best with a 5'2" student weighing about 110 lbs.