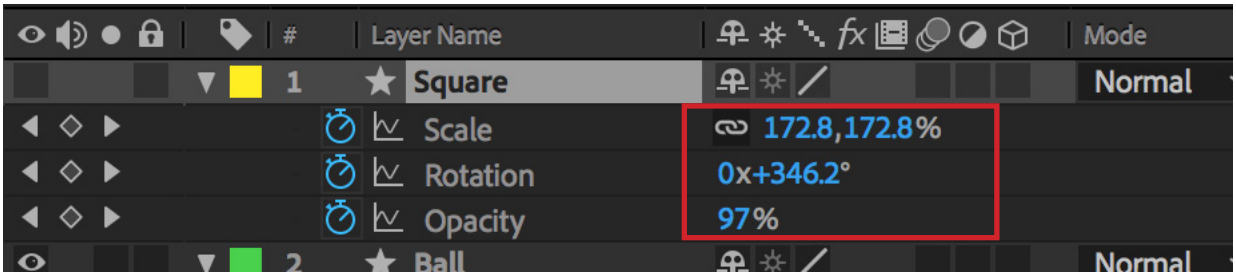
Motion Graphics Techniques - Lesson 3 Notes

Bouncing and the Value Graph

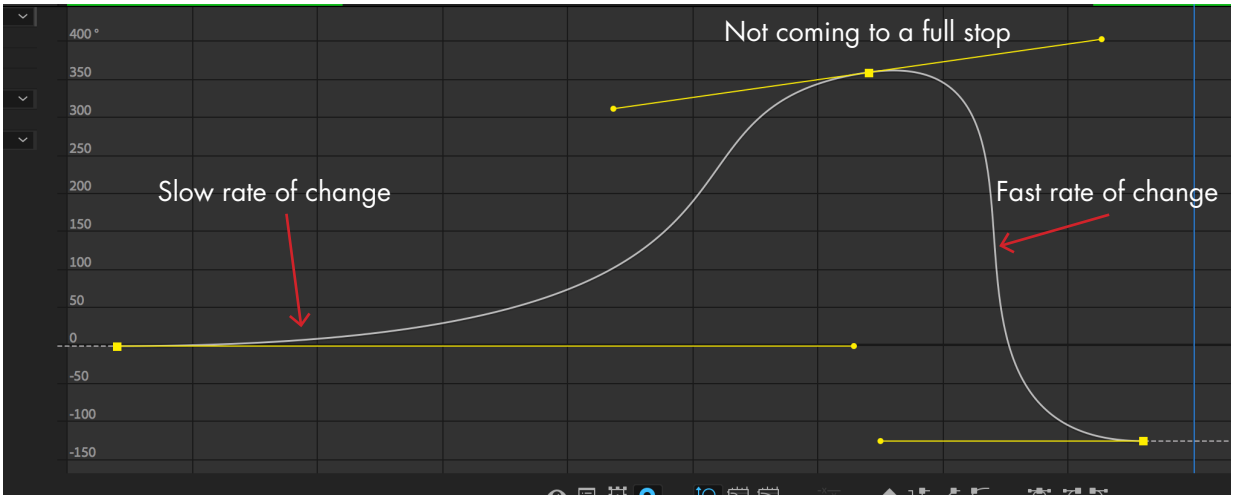
Valuable Lessons

Now that you're more acquainted with the Speed Graph, let's check out the Value Graph. Most animtors consider it to be a lot easier and more intuitive to work with than the Speed Graph. At the risk of being obvious, the Value Graph graphs the values of layer properties. Values are those little numbers next to properties like Scale, Rotation and Opacity.



Value Graph Notes

In the Value Graph, the more horizontal the line is, the less the values are changing. That means that the animation of that property is happening slower. Likewise, the more vertical the line appears, the animation is happening faster. It's important to remember that when the yellow handles are completely horizontal the values are not changing, and therefore the animation comes to a stop. And unlike the Speed Graph, values (except Opacity) can move below zero. Once you get used to all that, the Value Graph is a very clear tool to work with.



Smooth Moves

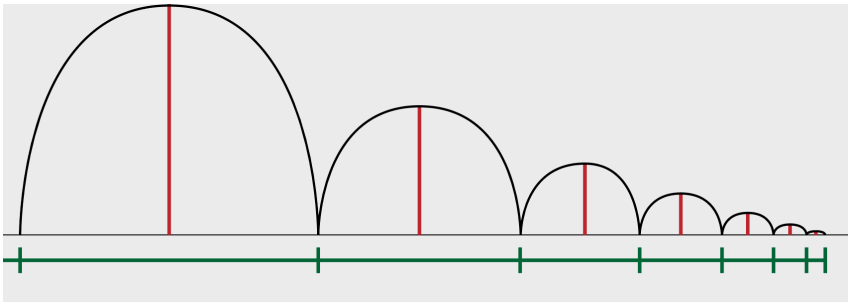
In the Value Graph it is much easier, and more important, to make smooth curves than in the Speed Graph. Smooth curves make for smooth animation. Just make sure not to pull the handles too hard unless you really want sharp motion on screen.

Motion Graphics Techniques - Lesson 2 Notes

Bouncing and the Value Graph

Decay Curves and Bouncing

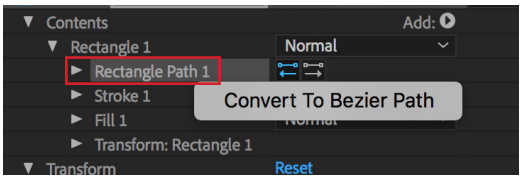
Bounces are all about decay. This has something complicated due to gravity and physics, which none of us care too much about. But you should know that over time a bouncing object loses energy in two ways. It bounces up a little less each time, and it bounces a little faster each time until it comes to a stop. The bounce of a light-weight object (like a pingpong ball) decays slowly -- a.k.a. it bounces more. Heavy, solid objects (like a bowling ball) are less springy and therefore their bounces decay much more quickly.

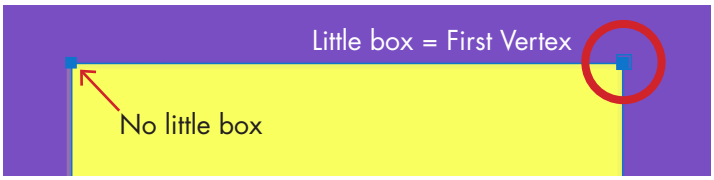


An illustration of the two different decay curves at work in a typical bounce.

Warning: Path Animation Error

For your final bounce homework I am asking you to animate the Path of an object, sometimes frame by frame. This is pretty challenging by itself, but there is a super-annoying error in After Effects that will make it completely impossible unless you know about it. When you convert a parametric shape (made with the Shape Tool) into a Bezier Path, After Effects picks one of the points to be the "First Vertex". That point has a little box around it.





You must change this First Vertex before animating the Path, otherwise you will get strange errors. The way to do this is the select any of the points other that the First Vertex, right-click (or Option/Alt click) on it, and then in the pop-up menu find Mask and Shape Path > Set First Vertex. This will eliminate the error. Yay!