Keyframing time

00:07 Now that we've placed some hit points to give us clues of important points in
00:11 this slow-motion action, let's use Time Remapping to change how fast or slow the
00:16 glass is moving in any point in time.
00:17 Now for those who have a copy of our book After Effects Apprentice, I'm not
00:21 going to be exactly following the order that we did things in the book because
00:24 this is not some magic recipe you only do once to get a specific result.
00:28 I want you to have fun and just learn the overall concept.
00:32 One thing I'm going to do I'm going to go up here with the Info panel and
00:35 re-dock it closer to my Comp panel, just so you can keep an eye on it while we
00:39 work with Time Remap keyframes.
00:41 The Info panel is very helpful in showing you when you've grabbed a keyframe and
00:45 how much you're moving it by.
00:47 Okay, the first thing I'm going to do is select my layer, right-click, choose
00:51 Time, then Enable Time Remapping.
00:54 It'll start off by putting a keyframe at the very start of the clip and one
00:59 frame past the end of the clip.
01:01 I've also spotted these hit points through here.
01:04 So I'm going to start dragging the Current Time Indicator and hold the Shift
01:06 key to snap to my markers and add a keyframe there to match our marker, 02:07 in time.
01:12 Go a little bit further, hold the Shift key to snap, add a keyframe;
01:17 a little bit later, snap, keyframe; and later, Shift key to snap, add a keyframe.
01:25 And let's say we want this whole animation we're going to create to happen in,
01:29 say, five seconds of time.
01:31 I'm going to set up a work area here just so we're not RAM Previewing the
01:33 whole 30-plus seconds.
01:35 I've placed my Current Time Indicator, I'll press the letter N to end the work
01:40 area, and I'm going to press plus on the normal keyboard to zoom in a little bit
01:45 here and see a little bit better resolution in my Timeline panel.
01:51 Okay, the first thing we need to do is get rid of this dead area here;
01:54 it is of no use to us whatsoever.
01:56 I'm going to delete this first Time Remapping keyframe because we don't need it.
02:01 It's fine if we go ahead and hold on this pose for the whole beginning of our clip.
02:05 And I can either move the entire clip back earlier in time or just click on the word
02:10 Time Remap to select all the Time Remap keyframes and slide them all to the
02:15 point back to where they start at the comp.
02:17 I'll hold down the Shift key to snap to the start of my comp.
02:20 As soon as you start moving Time Remap keyframes, they will fall out of sync
02:26 with your markers, just letting you know. You might want to save a copy of the
02:31 layer that has these markers in place. Or if you find the markers distracting,
02:35 you can right-click on any one marker and say Delete All Markers and get them

[02:39](#) out of the picture. Whichever works best for you.

[02:42](#) Okay, the very first frame of the comp is when the glass first appears.

[02:47](#) And if we need to handle at the start, we can just drag this later in time and

[02:51](#) drag the handle this way.

[02:52](#) I'll undo. Or I could just select all the Time Remap keyframes and push them

[02:57](#) back to start later in time.

[02:59](#) This way I can add as much handle to the start of my clip as I need.

[03:02](#) I'm going to start at the very beginning here and just so I have faster RAM Previews.

[03:06](#) The first thing we want to do is speed up this drop so it appears to happen

[03:10](#) at near-normal speed.

[03:13](#) That way we can introduce some drama as we switch from a normal-speed drop to a

[03:17](#) slow-motion hit and spill.

[03:20](#) So to do that, we need to select all of the keyframes after our first Time Remap keyframe.

[03:28](#) If you already have all the Time Remap keyframes selected, you can hold down

[03:31](#) the Shift key, click on that first keyframe to deselect it, and now I just see

[03:35](#) other ones are selected.

[03:37](#) If you don't have any keyframes selected, you can right-click on a keyframe and

[03:41](#) choose Select Following Keyframes.

[03:44](#) That will select the current keyframe and all the ones after it.

[03:48](#) Now that we've got those as a group, I'll drag them back earlier to say, well,

[03:51](#) I'm just kind of guessing here, let's say ten frames in time.

[03:55](#) And here is where I'm looking up at the Info panel in the upper right to confirm

[03:59](#) what time I'm at right now: 10 frames.

[04:01](#) All right, let's RAM Preview and see how that looks. Cool!

[04:07](#) I'm off on a good start here.

[04:08](#) The glass is falling very quickly, then goes into slow motion as we interpolate

[04:12](#) between our second and third keyframes.

[04:15](#) I could slow that down a little bit if I wanted to;

[04:17](#) it looks just little fast to be realistic. Let's try that.

[04:20](#) Now that's an important thing to remember: these keyframes represent points in time,

[04:27](#) and After Effects is interpolating in between those points in time, doing

[04:31](#) whatever speed tricks are necessary to pull this off.

[04:35](#) Okay, let's say I'm happy with that.

[04:37](#) Now that I have a fast-drop and then slow motion, let's say I want to really

[04:40](#) exaggerate slow motion to where we come down to a complete stop,

[04:45](#) maybe by the time we hit our final pose here.

[04:47](#) I'm happy with these first two keyframes, so I don't move them, so I can

[04:51](#) Shift+Click to deselect that keyframe,

[04:53](#) and now this keyframe and all the ones later are selected.

[04:56](#) So I'm going to take this already slow- motion glass and slow it down a little bit

[05:00](#) more in between that initial hit and where my droplet hits. Shift+Click to

[05:05](#) deselect that keyframe because I'm happy with that

05:08 and then take the final bit of motion and slow it way down, to the point where we
05:13 finally hit our end pose.
05:14 Note that we're defaulting to Linear keyframes initially, no interpolation.
05:20 In the next movie, we're going to use the Graph Editor to smooth out this motion.
05:23 But again, let's just preview and see where we're going so far.
05:25 0 on the Numeric Keypad.
05:27 Yeah, we're adding more drama to this.
05:36 We've got a fast drop, slower, and even slower as we go towards our end pose here.
05:43 And hopefully, we're building some anticipation as we approach this last pose.
05:48 By the way, you might have noticed that we went ahead and enabled Frame
05:51 Blending just normal Frame Mix mode for this milk drop, just to smooth out
05:56 the motion a little bit.
05:57 And later on you can even try going into Pixel Motion mode to see how that works.
06:02 Anyway, fast drop, slower, even slower still.
06:08 Now let's have fun and make this glass dance,
06:11 make it actually go backwards in time.
06:13 I'm going to go back to my second keyframe here, which marks 4 seconds and 13
06:20 frames into the source file where we have this first impact, and copy that time.
06:28 Then let's say that as we go further here, we want to back up to that initial pose.
06:33 Maybe somewhere around here we'll play around backing up.
06:38 I'll do Command+V, or Ctrl+V to paste, and now we've pasted time 04:13 of the
06:44 source to happen at time 03:00 of our composition.
06:48 So now as we go, we have fast drop, slow towards the splash, and then we
06:55 actually move backwards, and then turn around then go forwards again.
06:59 We're just doing normal interpolation: from 05:15 of the source, to 04:13 of the
07:03 source, to 07:07 of the source. RAM Preview.
07:07 So now we have the beginning of a sort of cha-cha-cha move as we go forward,
07:16 then backwards in time.
07:17 Now hopefully, this starts to give you an idea of some of the possibilities of
07:20 what you can do with Time Remapping to go ahead and bend time around and make
07:23 time flow forwards, backwards, fast, and slow.
07:27 In the next movie what we're going to do is go into the Graph Editor and smooth
07:30 out this motion to create something that has maybe even a bit more drama, or
07:34 dare I say a more realistic look, and just to use linear keyframes when the
07:38 motions just ping-ponging back and forth.
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Refining speed changes with the Graph Editor