# Basic Animation

**Building your first animation while you learn a typical After Effects workflow.**

## ▽ In This Lesson

## ▽ Getting Started

Make sure you have copied the **Lesson 01-Basic Animation** folder from this book's disc onto your hard drive, and make note of where it is; it contains the sources you need to execute this lesson. Our versions of these exercises are in the project file **Lesson_01_Finished.aep**.

I n this lesson, you will learn how to build a typical After Effects project. Although the design itself is simple, you will learn principles you can use over and over again in the future. For example, you will see how to import sources while keeping your project file organized. As you add layers to a composition, you will learn how to manipulate their transform properties, as well as how to keyframe them to create animations. Along the way, you'll learn important tricks and keyboard shortcuts. We'll also discuss how to handle alpha channels as well as layered Photoshop and Illustrator files.

## Composition Basics

In the Pre-Roll section, we discussed the basic hierarchy of an After Effects project: Sources are called *footage* items; when you add a footage item to a *composition* ("comp" for short), it is then known as a *layer*. Potential sources can include captured video, Flash or 3D animations, photographs or scans, images created in programs such as Photoshop or Illustrator, music, dialog…even film footage that has been scanned into the computer.

Layers are flat objects that can be arranged in a comp's space and animated around that space. We'll work in 2D space (the X and Y axis) at first, adding the Z axis in Lesson 8, *3D Space*. The order they are stacked in the Timeline panel determine the order in which they are drawn (unless they are in 3D space). Layers can start and end at different points in time (more on this in Lesson 3).

All properties in After Effects start out constant: You set them, and this is the value they have for the entire comp.
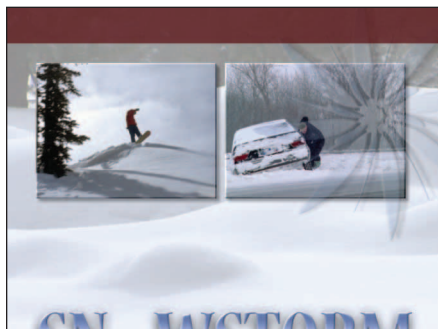
However, it is very easy to enable *keyframing* for virtually any property, which means you can set what their values will be at different points in time. After Effects will then automatically interpolate or "tween" between these values over time. Once you enable keyframing, changing a property's value automatically creates a new keyframe – you don't have to explicitly say "make new keyframe."

You have considerable control over how After Effects moves between keyframes. In this lesson, we'll demonstrate editing the *motion path* for position keyframes, and in the next lesson we'll dive into further refining the speed at which After Effects interpolates between values.

A layer can be smaller or larger than the composition and its "resolution" (pixels per inch) is ignored by After Effects. In addition to fading a layer in and out using its opacity, a footage item may also have an *alpha channel* that determines where the image is transparent and where it is opaque.

But before you start arranging and animating, you need to know how to make a new project and comp, as well as how to import sources – so let's get started!

After Effects compositions combine multiple layers together. Movies courtesy Artbeats, from the Recreation & Leisure, Winter Lifestyles, and Winter Scenes collections.

▽ factoid

**File Format Support**

For a full list of file formats that may be imported in After Effects, open the program, press **F1** to open the After Effects Help, and search for "**supported import formats**."

Individual layer properties may be keyframed in the Timeline panel to create an animation.
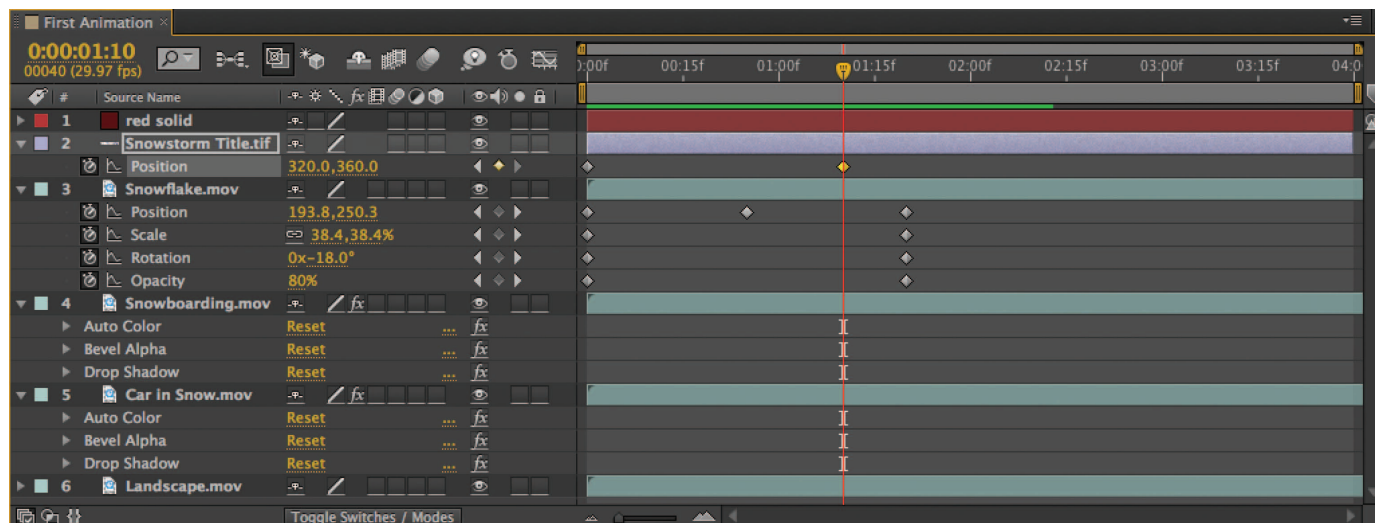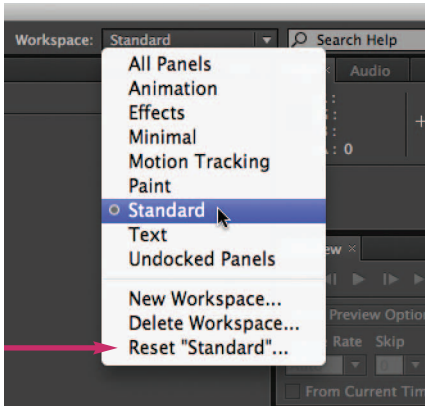
**1** Set the Workspace to Standard and then reset it to make sure you are starting with the same arrangement of frames and panels as we are. That way, our instructions will make a lot more sense.



**2** To create a new folder, click on the folder icon along the bottom of the Project panel. To rename it, type your new name while "Untitled 1" is highlighted, then press Return.

## Starting a Project

In this first lesson, you'll create a simple animation of a winter scene. To see where you'll end up, locate the movie **First Animation_final.mov** in this lesson's folder, and play it a few times in QuickTime Player. (To keep things simple, we "pre-baked" the title and snowflake designs; the original sources ar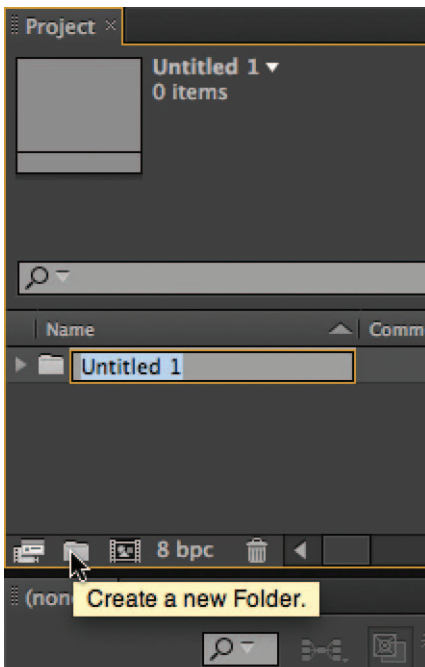e included in our finished project. You'll learn how to create text in Lesson 5, and how to animate Shape Layers in Lesson 11.) Bring After Effects forward when you're done, and we'll guide you through building this animation from scratch.

**1** When After Effects is launched, click Close in the Welcome screen, and it will create a new, blank project for you. In the upper right corner of the application window, locate the Workspace popup, and select Standard. To make sure you are using the original arrangement of this workspace, from the same popup select Reset "Standard" (it's at the bottom). A Reset Workspace dialog will appear; click Discard Changes.

**2** The Project panel can quickly become a confusing mess of sources and comps. To avoid this, let's create a couple of folders to help keep it organized. Click on the New Folder icon along the bottom of the Project panel. A folder called **Untitled 1** will be created. It defaults to its name being highlighted; to rename it, type "**Sources**" and press Return (on a Windows keyboard, this is the main Enter key – not the one on the extended keypad). You can rename it at any time; just select the folder and press Return to highlight the name.

**3** Click in a blank area of the Project panel to deselect your **Sources** folder; the shortcut to Deselect All is F2. Now create a second folder; rename it "**Comps**" and press Return.

(If the **Sources** folder was selected when you created the **Comps** folder, **Comps** will be nested inside **Sources**. Place it on the same level by dragging the **Comps** folder outside of the **Sources** folder.)

### Saving a Project

**4** Select File > Save to save your project. The shortcut is ⌘ S on Mac (Ctrl S on Windows). A file browser window will open; save your project file in this lesson's folder (**Lesson 01-Basic Animation**), and give it a name that makes sense, such as "**Basic Animation v1**".

It is a good idea to give projects version numbers so you can keep track of revisions; it also allows you to take advantage of the nifty File > Increment and Save function. Instead of just saving your project, Increment and Save will save your project under a new version number, leaving a trail of previous versions in case you ever need to go back. After Effects also has an Auto Save function; it's under Preferences > Auto-Save.

## Creating a New Composition

**5** Select the **Comps** folder you created in step 3. That way, the new comp you are about to create will automatically be sorted into it. Then either select the menu item Composition > New Composition, or use the keyboard shortcut ⌘ N (Ctrl N). A Composition Settings dialog will open in which you can determine the size, duration, and frame rate of your new comp. A good habit to get into with After Effects is naming your compositions as you create them. Enter "**First Animation**" in the Composition Name dialog.

At the top of this dialog is the Preset popup menu, which includes a number of common comp sizes and frame rates. You can also enter your own settings. For this starting composition, uncheck the Lock Aspect Ratio box, then type in a Width of 640 and Height of 480. Click on the menu next to Pixel Aspect Ratio and select Square Pixels (we'll discuss pixels that are not square in the *Tech Corner* at the end of Lesson 3).

Highlight the value currently in the Duration field, and enter "**4.00**" for four seconds. Then make sure the remaining settings are at their defaults: Frame Rate of 29.97, Resolution of Full, and Start Timecode of 0;00;00;00. The Background Color defaults to Black, but we can change that later if we need to.

Finally, click on the Advanced tab and check that the Renderer popup is set to use the Classic 3D Renderer (we'll use the Ray-traced 3D Renderer in Lesson 8). Click OK. Your new comp will open into the Comp and Timeline panels.

**6** Your comp will also appear in the Project panel, inside your **Comps** folder (if it's not in there, drag it in). If you cannot read the entire name in the Project panel, just place your cursor along the right edge of the Name column (a double-sided arrow will appear) and drag the column wider. Finally, save your project.

## Importing Footage

There are two main ways to import footage into After Effects: using the normal Import dialog, and using Adobe Bridge (covered in Pre-Roll). We'll explore the Import dialog here, but feel free to use Bridge if you prefer. (You can also drag and drop from the Finder or Windows Explorer, but that can be awkward as the After Effects application window tends to take up the entire screen.)

**7** It's time to import some sources into your project. First, select the **Sources** folder you created in step 2. Then use the menu item File > Import > File. Navigate to the **Lesson 01-Basic Animation** folder you copied from this book's disc, and open the folder **01_Sources**. Select **Snowstorm Title.tif** and click Open.

**5** These are the settings we will use for our first composition (above). Remember to uncheck the Lock Aspect Ratio box before typing in new dimensions. In the Advanced tab, check that the Renderer popup is set to use the Classic 3D Renderer (below).

**6** At this point, the Project panel will have two folders and one composition. Drag this Name column wider if the comp's name is bring truncated.

## ▼ Managing the Comp View

You learned in the Pre-Roll how to resize the user interface's frames. You can resize the frame that holds the Comp panel to decide how much screen real estate you can devote to it. There are several ways to control how this space is used to display the comp's image area:

• In the lower left corner of the Comp panel is a Magnification popup. A popular setting for this is Fit up to 100%, which uses as much of the Comp panel's frame as it can up to full size; that's the setting we used when creating most of these lessons and comps. A downside of the Fit option is that your image can look a bit crunchy if the result is an unusual size, such as 78%. Therefore, some users prefer picking a set size such as 100% or 50% that gets close to using the space available, then resizing the frame again as needed.
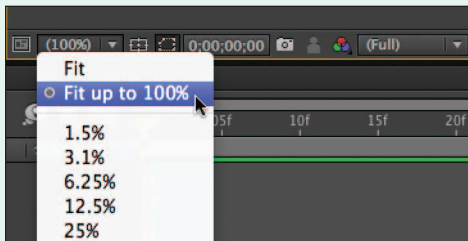


• When the Comp panel is selected (surrounded by a yellow outline), you can hold down ⌘ (*Ctrl*) and press the ➕ key to zoom in larger, or the ➖ key to zoom out smaller.

• If you have a mouse with a scroll wheel, hover its cursor over the Comp panel, and use the wheel to zoom in and out.

• For more targeted zooming, select the Zoom tool (shortcut: *Z*), and click to zoom in and center around where you click, or ⌥+click (*Alt*+click) to zoom out. Don't forget to press *V* when done to return to the Selection tool!

• Even better, press and hold down the *Z* key to *temporarily* switch to the Zoom tool; add ⌥ (*Alt*) to zoom out. When you release the *Z* key, the Selection tool will still be active.

• To pan around your composition, hold down the spacebar to temporarily bring up the Hand tool, then click and drag in the Comp panel to reposition it. (Tapping the spacebar previews the timeline.)

**8** The Import dialog will be replaced with an Interpret Footage dialog. This file has an *alpha channel*: a grayscale channel that sets the transparency of the RGB color channels. There are two main types of alpha channels: *Straight*, which means the color has been "painted beyond" the edges of the alpha channel, and *Premultiplied*, which means the color is mixed ("matted") with the background color around the edges.

If you knew what type of alpha your file has, you could select it here. Since you don't, click Guess. In this file's case, After Effects will choose the Premultiplied – Matted With Color White option, which is correct. Click OK, and it will appear in your **Sources** folder.
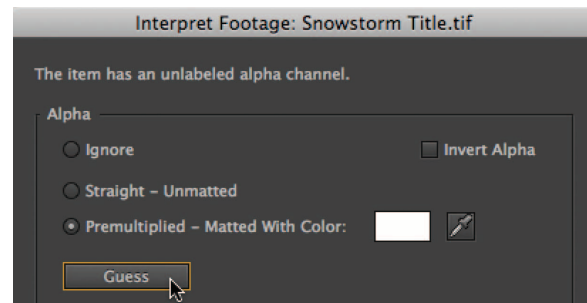


**8** To get the best results out of sources with alpha channels, you want to select the correct alpha channel type. You can do this while importing a file, or any time later using the Interpret Footage dialog. After Effects has a Guess function to help.

**9** Now it's time to import some more sources. Make sure the **Sources** folder (or a file inside it) is still selected, and use the shortcut ⌘ *I* (*Ctrl* *I*) to open the Import dialog. Select **Snowflake.mov**, and click Open. This is an animation created using Shape Layers in After Effects (these are the subject of Lesson 11). We then rendered it as a QuickTime movie with an alpha channel.

**10** Finally, double-click on an empty area of the Project panel – this will also open the Import dialog. Select the folder named **Movies**, and click the Open button. This will import all the contents of the folder for you with a single click; it will also create a folder with the same name in the Project panel. Drag the **Movies** folder inside your **Sources** folder, and save your project.

# Building a Comp

Now that you have your sources, you can add them to your comp, arrange them, and have some fun animating them. First, make sure the Timeline and Composition panels have the name of your comp (**First Animation**) in a tab along their tops. If not, double-click this comp in the Project panel to open it.

## Transform Fun

**11** Select the footage item **Snowstorm Title.tif** in your **Sources** folder in the Project panel, and drag it over to the image area of the Composition panel. While keeping the mouse button down, drag it near the center of the comp: You will notice After Effects tries to snap it into the center for you. With the mouse button still down, drag near the four corners of the comp: After Effects will try to snap the outline of the source against these corners.

Place it in the center, and release the mouse. It will be drawn in the comp's image area, and appear as a layer in the Timeline panel as well. (To get this snapping behavior when you try to drag an already-added layer in the future, press the ⌘ **Shift** (**Ctrl** **Shift**) keys after you start dragging a layer.)
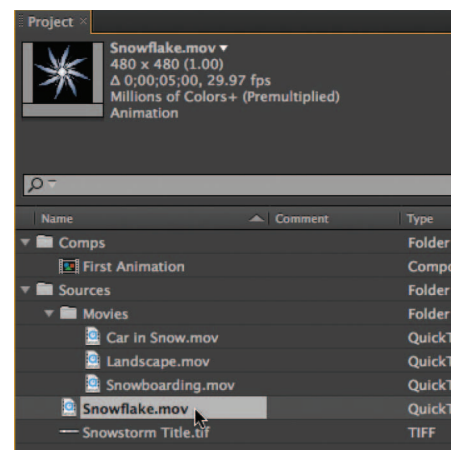
After importing your sources, select a source to see its thumbnail and details above. You can expand the Project panel wider to see details about each source, such as Type, Size, Media Duration, and File Path.
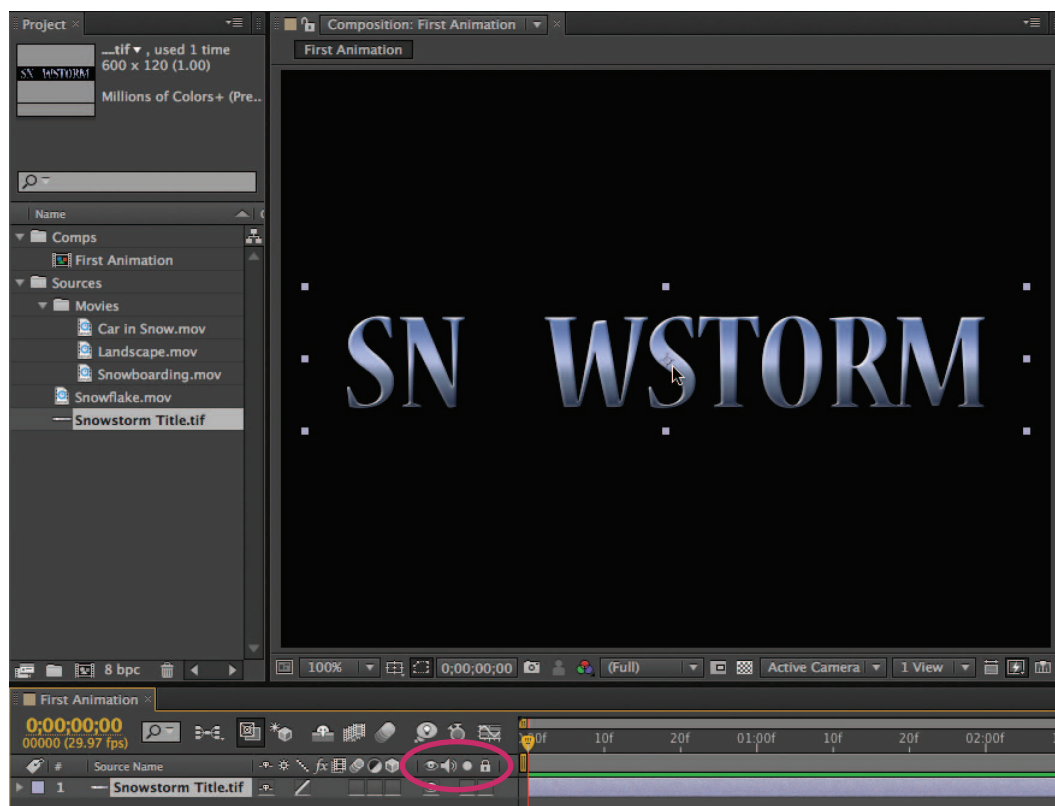
**11** When you first drag a footage source into the Comp panel, it will helpfully try to snap to the center or corner of the comp's image area. (From then on, the layer will behave normally, with no snapping behavior.) The layer will appear in the Comp and Timeline panels.

By the way, we have dragged the Timeline panel's A/V Features column (circled in red) from its default position over to the right, to be near the timeline. You can do the same by dragging the column header to the right until it drops into place.
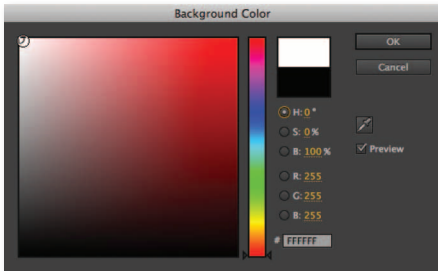
**12** Pick white for this composition's background color.
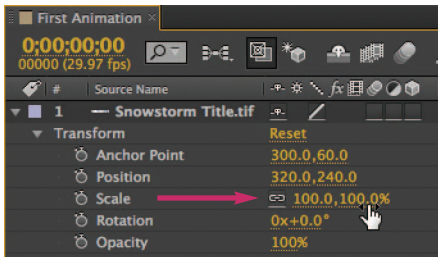


**13** To "scrub" a value in the Timeline panel, place the cursor over the value until a two-headed arrow appears, click, and drag. Scale has its X and Y dimensions locked together, so scrubbing one value also changes the other.



**14** Highlight a layer, then use the Selection tool to interactively scale a layer by dragging its corners in the Comp panel. The values in the Timeline panel will update while you drag. It is easy to accidentally distort the "aspect ratio" of a layer while doing so (as we are here); add **Shift** while dragging to constrain a layer's proportions.

**12** The Comp's Background Color defaulted to black. Let's change that so you can see the drop shadow effect that is applied to the title:

Select the menu item Composition > Composition Settings, then click on the Background Color swatch; the standard Adobe Color Picker will appear. Drag inside the color field to select white. Click OK, and OK again in the Composition Settings dialog to accept your changes. The text and its shadow should now be easily readable against the white background color.

**13** In the Timeline panel, click on the arrow to the left of **Snowstorm Title.tif**: This will reveal the word Transform. Click on the arrow to the left of Transform; this will reveal all of the Transform properties for this layer. In the future, we will refer to clicking these arrows as "twirl down" (and "twirl up" when closing a section).

Notice the numeric values next to each property: Place your cursor over one, then click and drag while watching the Comp panel to see the effect of editing these properties. This technique is referred to as *scrubbing* a value, and is a skill you'll use over and over in After Effects.

You can also type an exact value by clicking a value, which makes that field active. Press **Tab** to advance to the next value, and press **Return** when done.

Some properties – such as Scale and Position – have separate X (horizontal, or left-right) and Y (vertical, or up-down) dimensions to their values. By default, Scale's X and Y dimensions are locked together to prevent distorting the layer; you can unlock them by clicking on the chain link icon next to their value.

**14** After you've experimented with scrubbing, click on the word Reset to the right of the Transform header to return these values to their defaults. Next you're going to play with directly manipulating the layer in the Comp panel to edit its Transform properties. While doing so, keep an eye on the values in the Timeline panel to get a better feel for what's going on.

• To edit Position, directly click on and drag a layer in the Composition panel. To constrain movement to one dimension, start to drag the layer, *then* hold down the **Shift** key and drag some more.

• With the layer still selected, edit Scale by clicking and dragging one of the eight square dots ("handles") around the outline of the layer in the Comp panel. To avoid distorting the layer and keep its original aspect ratio, start to drag the layer, *then* hold down the **Shift** key and drag some more.

• To edit Rotation, press **W** to select the Rotate tool (known affectionately to some as "Wotate"), click on the layer, and drag around in circles. Add the **Shift** key to constrain movement to 45° increments. When you're done, press **V** to return to the Selection tool ( ).

As before, click on the word Reset next to Transform to return these values to their defaults.

## Animating Position

Now you know how to transform a layer manually; next comes making After Effects transform a layer for you over time. This involves a process known as keyframing.

**15** There are keyboard shortcuts to reveal select Transform properties. With **Snowstorm Title.tif** still selected, type Ⓟ to reveal just its Position property.

You're going to make this layer move onto the screen from below and settle into place. Drag the title totally out of sight and onto the pasteboard just below the Comp panel. Then make sure the current time indicator is at the start of the timeline (the numeric time display in the Timeline panel should read 0;00;00;00). If it isn't, grab the yellow head of the current time indicator and drag it there, or press Home to quickly make it jump to the start.

To the left of the word Position is a small stop-watch icon. Click on it, and it will now be out-lined and highlighted. You have now enabled Position for keyframing and animation. [The
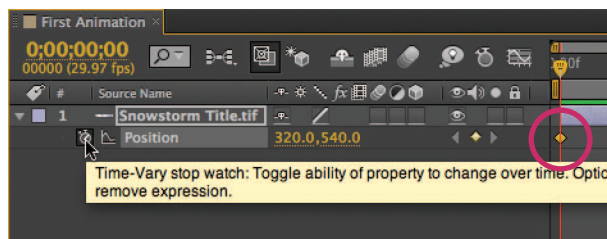


shortcut to toggle on and off the Position stopwatch for a selected layer(s) is ⎇ Shift Ⓟ (Alt Shift Ⓟ).] Enabling keyframing also places a keyframe – indicated by a yellow diamond to the right in the timeline portion of the display – at the current time, using Position's current value.

**16** Drag the current time indicator to 01:10 in the timeline. Pick up and drag the **Snowstorm Title.tif** layer where you want it to end up. (We used a Position value of X = 320, Y = 360.) A new keyframe will automatically be created for you with this value, at the current time.

You may have noticed that a line appeared in the Comp panel, tracing the path from where your layer started to where it is ending up. This is known as the *motion path*. It is made up of a series of dots. Each dot indicates where that layer will be at each frame in your timeline. The motion path is visible only when the layer is selected.

Drag the current time indicator back and forth along the top of the timeline, and notice how your layer moves along its motion path. To see what it would look like playing back in real time, press ⓪ on the numeric keypad to initiate a RAM Preview, or press the RAM Preview button at the right side of the Preview panel. After Effects will work its way through the frames once as fast as it can, then play back the animation in real time. Press any key to stop the preview.

---

### ▼ Transform Shortcuts

The following shortcut keys reveal specific Transform properties for the selected layer(s):

Ⓐ  Anchor Point

Ⓟ  Position

Ⓢ  Scale

Ⓡ  Rotation

Ⓣ  OpaciTy

To add a property to those already being displayed, hold down Shift when you press these shortcuts.

**15** In the Timeline panel, click on the stopwatch icon next to the word Position to enable keyframing for it; this also creates the first keyframe (the yellow diamond).



**16** Move to a different time, and drag the layer to a new position; a motion path will appear in the Comp panel illustrating its travels (above). Click RAM Preview (below).
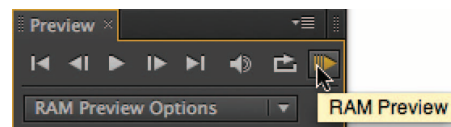
**17**  It is easy to change the timing of keyframes: In the Timeline panel, drag the second diamond keyframe to the left or right to make it occur earlier or later in time. RAM Preview to see the new timing, then return the keyframe to 01:10.
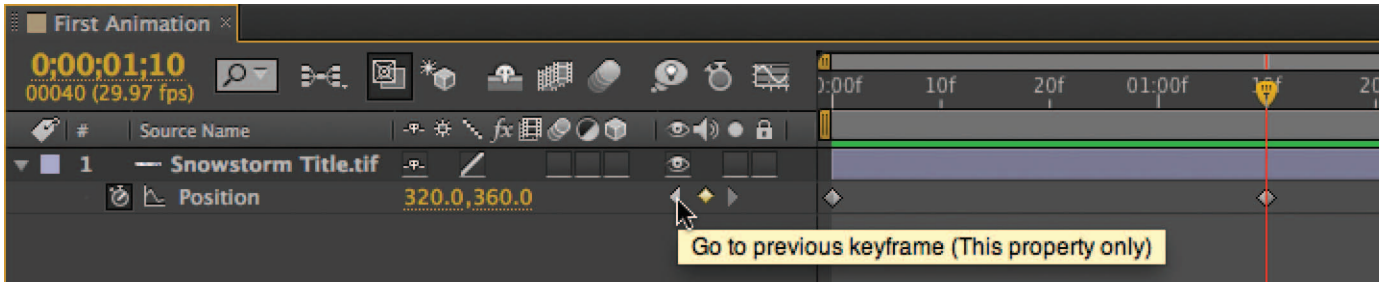


Go to previous keyframe (This property only)

**18**  Under the A/V Features column are a pair of keyframe navigation arrows, which make it easy to jump to the previous or next keyframe for a given property. If the diamond between them is yellow, the current time indicator is parked on top of a keyframe.

▽ **tip**

**Multiple Undos**

By default, you have 32 levels of Undo in After Effects. If that's not enough, you can set it as high as 99 in Preferences > General.

**18**  You can also easily edit the value of a keyframe after you've created it. In the A/V Features column of the Timeline panel are a pair of gray arrows surrounding a small diamond. These are known as the *keyframe navigation* arrows. Clicking on them will jump to the next keyframe in line for that property, confirmed by the diamond changing from hollow to yellow. Once you're "parked" on a keyframe, to edit that keyframe either scrub the layer's Position values, or drag the layer around in the Comp panel.

If you don't jump to the exact time of a previously existing keyframe, you will instead create a new keyframe. If you create one by accident, you can delete it by selecting it in the timeline and pressing `Delete`. Or, use the keyframe navigation arrows to jump to it, then click on the yellow diamond between the arrows to remove it.

Save your project. Indeed, now would be a good time to use the File > Increment and Save option, so your work to date will be saved under a new version number.

## Adding a Background Layer

**19**  To add interest, let's bring in our background layer. In the Project panel, open the **Sources > Movies** folder, select **Landscape.mov**, and drag it to the left side of the Timeline panel so it sits below the title layer. It should fill the Comp panel. RAM Preview to see how it looks.



19–20  Add **Landscape.mov** as a background and reduce its Opacity (right) so that it appears "ghosted" (above).
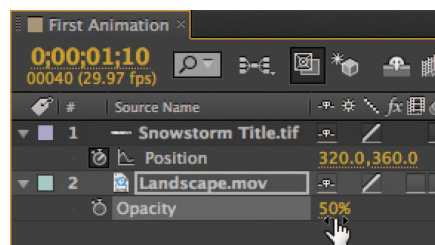


**20**  Note that because the background color is white, if you make the background movie semitransparent, it will appear more pale and "ghosted." With **Landscape.mov** selected, press `T` to twirl down Opacity property, and scrub its value to taste.

## Adding a Middle Layer

The Snowstorm title has a missing "o" that will be filled in by adding an animated snowflake icon (yes, we desperately needed something for you to animate along a curve…). First, let's learn a few more tricks for adding footage to a comp:

**21** In your **Sources** folder in the Project panel, select the footage item **Snowflake.mov**:

• Drag **Snowflake.mov** down to the *left side* of the Timeline panel, near the names of your other layers. Hover your cursor above your existing layers, and you will see a thick black horizontal line, which indicates you're about to place it above these layers. Drag it downward until this line appears *between* both layers and release the mouse. The new layer will appear as Layer 2, behind the title and in front of the background movie. Note that no matter where the current time indicator was parked, the new layer starts at the beginning of the comp (00:00).

• Press ⌘ Z (Ctrl Z) to Undo this addition, and try another method. This time, drag **Snowflake.mov** to the *right side* of the Timeline panel until your cursor is hovering over the timeline area. You should see a second yellow time indicator head appear. This indicates where it would start *in time* if you were to release your mouse now, and provides an inter-active way to decide your initial



starting time. You can also move it up and down in the layer stack with this method. Pick some location in the middle of the timeline, and in the middle of the two layers, and release the mouse. The new layer will be added at the time you've picked. (If the snowflake is not visible, check if it ended up below the background movie; if so, drag it up one layer so it is Layer 2.)

**22** Drag the current time indicator back and forth, and notice how the snowflake symbol does not appear in the Comp viewer until after the current time indicator crosses the start of the layer in the timeline. You can click and drag the middle of the layer bar for **Snowflake.mov** to make it start sooner or later in time; for now, avoid dragging the ends of the layer bar, which trims the layer. (Moving and trimming layers is covered in more detail in Lesson 3.)

Finally, with **Snowflake.mov** still selected, press ⌥ Home (Alt Home) to make it start at the beginning of the comp and let's animate it into position.

▽ factoid

### Comp versus Timeline

When you add a layer to a comp by dragging it to the Timeline panel, the layer will be automatically centered in the Comp panel. When you add a layer to the Comp panel, the default is to start the layer at 00:00 (set by Preferences > General > Create Layers at Composition Start Time). Toggle this off to add layers starting at the current time.
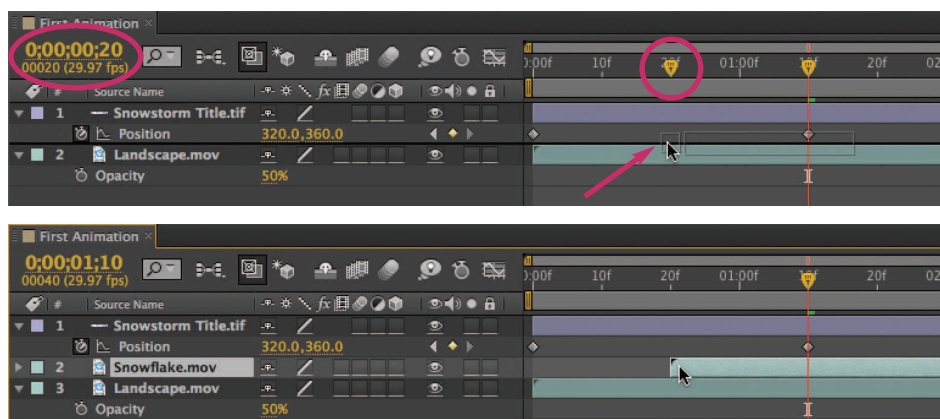
**21** When you drag a new source from the Project panel to the Timeline panel, you can decide when and where to drop it in the layer stack. Notice the ghosted outline and second current time indicator before we let go of the mouse (top), and how it corresponds to the layer's placement after we let go (above).

▽ tip
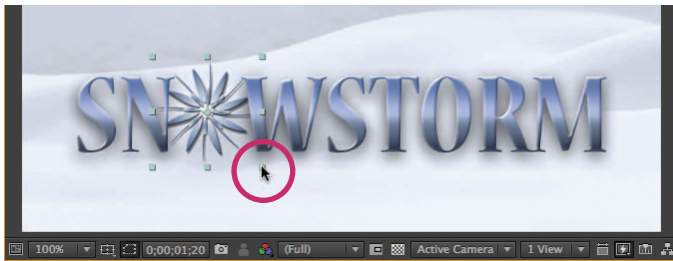
### Quick Location

To make a layer start where the current time indicator is, select it and press [ (left square bracket).

**23** Place **Snowflake.mov** where the missing "O" should be in **Snowstorm Title.tif**, then scale it down to fit.



# Crafting a Motion Path

Right now, the snowflake movie is dominating the center of your composition. The plan is to have it fly across across the screen and land in place of the missing "O" in the Snowstorm title.

**23** Let's allow the title to settle into place at 01:10 and then have the snowflake drop into position 10 frames later at 1:20. To move to an exact point in time, you can click the timecode readout in the Comp or Timeline panels, enter "120" and press Return.

• Next, click on the snowflake in the Composition panel, and drag it into place where the missing "O" should be. You can use the cursor keys to nudge it into place.

• Then drag one of the layer handles (the eight boxes around its edges) for **Snowflake.mov** to scale it down to a good size that will fit in with the rest of the title. Hold down the Shift key *after* you start dragging one of these handles to force the layer to keep its original aspect ratio; otherwise, the snowflake will be distorted. We used a Scale value of 23% but feel free to size it to taste.

**24** With **Snowflake.mov** still selected, press P to reveal its Position, then click on its animation stopwatch to enable keyframing (just as you did for the **Snowstorm Title.tif** layer back in step 15). This will create a Position keyframe at 01:20 with the current value.

Move the current time indicator to the start of the composition (00:00 in time); the shortcut is to press Home. Drag the snowflake to the upper right corner of the comp. A new Position keyframe will be created at this time, and you will see a straight motion path line join the two keyframes in the Comp panel. Again, the dots along this line indicate the layer's position at each frame in time; the spacing between these dots indicates how fast it is moving. RAM Preview to get a feel for the straight motion path.

**24** After creating two Position keyframes, tug on the Auto Bezier handles (right) to create a motion path that arcs across the comp (left). If you can't find these dots, you can also hold down ⌘ ⌥ (Ctrl Alt) and drag in the Comp panel from the (square) keyframe icon outward to create visible handles.

If you look closely, you will see two slightly larger dots along the motion path line, close to each keyframe icon. Motion path keyframes default to an interpolation type known as Auto Bezier, which automatically tries to smooth the path. These dots are the interpolation handles for those keyframes. Pull them toward the upper left corner of the comp to cause the snowflake's path to arc across the screen. If you cannot see these handles, hold down ⌘ ⌥ (*Ctrl* *Alt*) and drag in the Comp panel from the (square) keyframe icon outward to create visible handles. If you accidentally drag the background layer instead, Edit > Undo, reselect **Snowflake.mov**, and try again. RAM Preview again.

**25** To make the flight path even more interesting, move the current time indicator to 00:25 (between both keyframes), and drag the snowflake to a new position. A new Position keyframe will be created automatically, and the motion path will bend to connect your three spatial keyframes. Tug on the Bezier handles protruding from the keyframes to create a more interesting motion path. RAM Preview, and save your project.



**25** Add a third keyframe and play with the motion path's Bezier handles to create a more involved flight path.

If you noticed a speed shift in the snowflake's flight, this is because it is traveling farther between one pair of keyframes than between the other pair. You can confirm this by looking at the spacing of the dots along its motion path: Different spacing means different speeds. Slide the middle Position keyframe in the timeline until the dot spacing is more balanced. (In the next lesson you'll learn how to precisely edit a layer's speed.)

## ▼ Spatial Keyframe Types

The Position keyframes in the Comp viewer are referred to as spatial keyframes, as they define where the layer is supposed to be in space at a given time. How the motion path flows into and out of a spatial keyframe is also important, and can be deciphered both by looking at the path itself, and by looking at a selected spatial keyframe:

• The default spatial keyframe type is Auto Bezier. It is indicated by two dots in a straight line on either side of the keyframe (A). This means After Effects will automatically create a smooth bend through this keyframe.

• Dragging one of these dots results in the keyframe being converted into a Continuous Bezier type, indicated by the straight line ("handle") that connects the dots (B). Drag these handles to explicitly control the motion path.

• If you want to create a sudden change in direction at the keyframe, hold down **G** (to temporarily toggle to the Pen tool) and drag one of the handles to "break" their continuous nature. You can then drag the handles of this Bezier keyframe independently (C).

• To create a hard corner without a curve or handles, hold down **G** and click the keyframe's vertex itself to convert it to a Linear keyframe (D).

• To return a Linear keyframe to an Auto Bezier keyframe, hold down **G** and click on the keyframe again.

Press **V** if you need to return to the Selection tool.



A — Auto Bezier

B — Continuous Bezier

C — Bezier

D — Linear

## key concept

### Anchor Point

Notice how the snowflake scaled and rotated around its center? That's because we centered it when we made it. You won't be so lucky with other sources; they may appear to wobble when they rotate. The cure for this is setting the Anchor Point, which you'll learn in Lesson 2.



**26** To remember your ending pose, create keyframes for Scale and Opacity aligned in time with your final Position keyframe.

## tip

### Slow Scrubbing

To scrub a value by smaller increments for precise control, hold down the ⌘ (Ctrl) key while scrubbing. To jump by larger increments, hold down Shift while scrubbing.

## Animating Opacity, Scale, and Rotation

Having a layer "fly into position" rarely involves just Position keyframes; you can also animate its Scale parameter to make it appear to fly toward or away from you, and its Opacity parameter to have it fade up or down.

**26** You have already created a good ending pose for the snowflake that works nicely in relation to the rest of the Snowstorm title. Therefore, first you will want to create keyframes to remember this pose:

• Move the current time indicator to 01:20 to align with the final Position keyframe for **Snowflake.mov**. You can press the Shift key as you drag to "snap" to existing keyframes, or use the keyframe navigator arrows to jump to the next or previous keyframes.
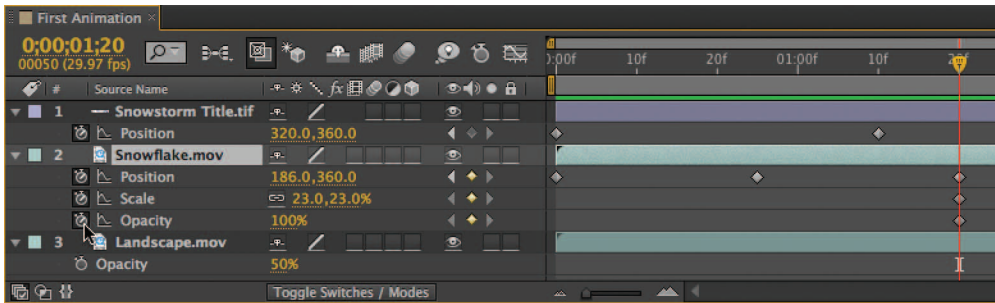
• Select **Snowflake.mov**. Its Position parameter should already be revealed. To reveal additional properties, hold down the Shift key, then press S for Scale and T for Opacity.

• Click on the animation stopwatch for Scale and Opacity to enable keyframing for these parameters. This creates keyframes with their current values at the current time (01:20).

**27** Move the current time indicator to 00:00 (shortcut: Home), when the snowflake's flight begins. Scrub **Snowflake.mov**'s Scale parameter in the Timeline panel while watching the result in the Comp panel and pick a nice starting size. It can be larger or smaller than its final Scale value, depending on the visual effect you want. One thing to keep in mind is that with most layers,
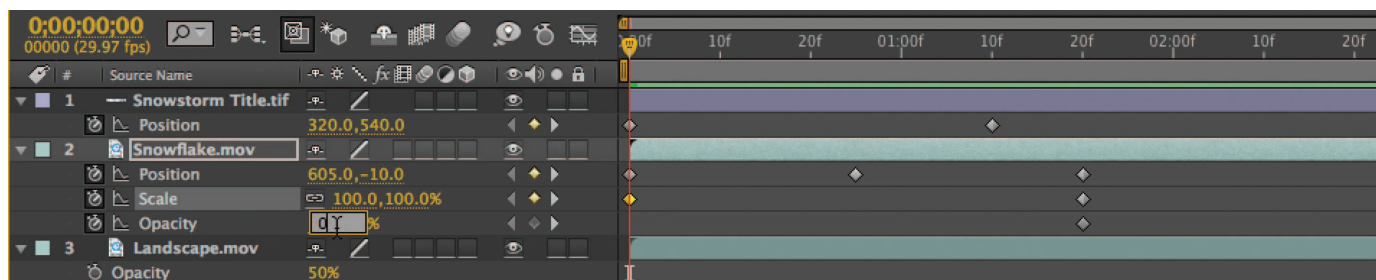
---

▼ **Nudging Position, Rotation, and Scale**

Sometimes it's easier to use the keyboard to nudge the transform values for a layer. Here are the magic keys:

Position: cursor keys ⬆ ➡ ⬅ ⬇

Rotation: numeric keypad's ➕ and ➖

Scale: ⌥ (Ctrl) plus numeric keypad's ➕ and ➖

If you hold down the Shift key while doing any of these, the transform values will jump in increments of 10 rather than 1.

it is a bad idea to increase Scale past 100%, as this may result in softening of the image plus other visual artifacts.

You may also enter keyframe values numerically. Click on the Scale value in the timeline, which will highlight it. Type in your new value and press **Enter** or **Return**. You can also double-click a keyframe, which will open a dialog where you can enter your desired value. The advantage of double-clicking a keyframe is that you can edit it without having to first align the current time indicator with the desired keyframe.

**28** To have the snowflake fade on, you need to reduce its initial Opacity value. With the time indicator still at 00:00, scrub **Snowflake.mov**'s Opacity value to the left to reduce its opacity. A value of 0% means fully transparent. You can also directly enter a number such as 0. RAM Preview to test your animation.

**29** If you want to add more complexity to your animation, you can animate its Rotation property as well:

• Place the time indicator at 01:20.

• To work faster, hold **⌥** (**Alt**) and press **R**: This will reveal the Rotation parameter, plus enable keyframing for Rotation.

• Press **Home** to move the time indicator to 00:00.

• Enter a new initial Rotation value, such as –90°.

RAM Preview to test your new animation, and tweak the parameters to taste. When satisfied, File > Increment and Save to save a new project file.

**27–28** Animate the snowflake's Scale and Opacity values to cause it to fade up and fly down as it moves into position. Note that you can edit values numerically in the Timeline panel (top).

▽ try it

## Smooth Moves

By default, After Effects creates linear keyframes in the timeline. These result in sudden starts and stops. Keyframe interpolation and velocity are covered in the next lesson. But until then, to add a more elegant touch, you can select a starting or ending keyframe and press **F9** to apply the Easy Ease Keyframe Assistant, which will create smooth starts and stops.

(Mac users will have to change Exposé in System Preferences to free up the shortcuts **F9** – **F12**.)