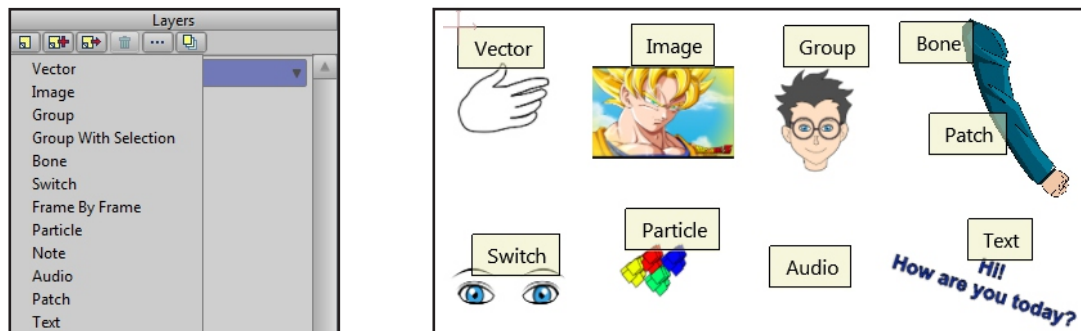


Creating and Working with Layers

Lesson 3

Besides separating elements out in your project file, Anime Studio's layers can serve a host of different functions. Picking the appropriate layers for certain jobs is the key, which is why you will find each layer type detailed in the next sections. To add a layer at any time, click on the New Layer button on your Layers panel and choose the appropriate type from the list. Remember, you can only edit a layer if you've selected it from the Layers panel. Using the Layer Selector on the toolbar on the left-hand side will allow you to select any layer you see on the canvas; keep that in mind if that's your preferred method.

To follow along and gain a better understanding of layer types, please open the Anime Studio project file entitled Layer Types.anme from your book's work files.

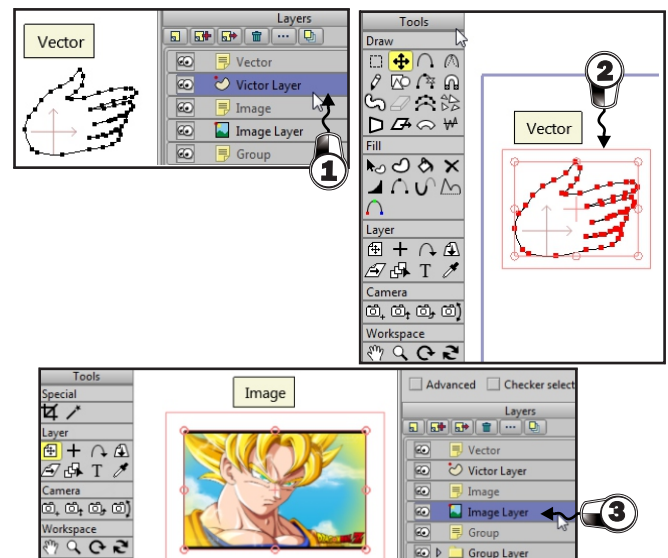


The Vector layers

Vectors are the most common type of layers found in Anime Studio. These layers serve a simple purpose, drawing. If you want to use the drawing tools in Anime Studio, make sure you are on a vector layer before attempting it. Otherwise, you will find that the drawing tools will be disabled. Until this point, all of our exercises have been done using vector layers (with the exception of the Insert Text tool).

The steps to use the Vector layer are as follows:

- 1 In your example file, locate and click on the layer entitled **Vector** layer on the Layers panel on the right hand side. This layer on the canvas is the first one on the left-hand side and contains a drawn hand.
- 2 You will notice that your drawing tools will become available to you as shown in the following screenshot:
- 3 Click on the second layer in the Layers panel entitled Image layer. Notice how you can no longer draw with any of the drawing tools while in this layer.



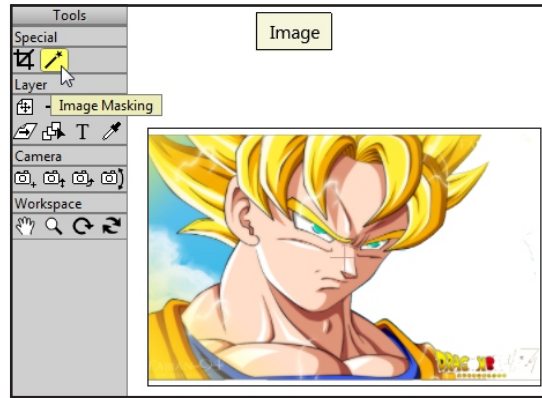
NOTE...

Did you know you can convert 2D vectors into 3D objects? Yes, it's true! Some people even refer to Anime Studio as a 2.5D software due to its ability to work with 2D assets in 3D space. Double-click on any vector layer in your Layers panel and choose the 3D Options tab in the Layer Settings panel. From here, you can select different render types and customize your new 3D object. Once you accept the changes, you will have a 3D vector layer appearing in your Layers panel (which holds the newly created 3D object). Just note that Anime Studio wasn't built for 3D animation. While it's an option, it's not the recommended method of animation for this software.

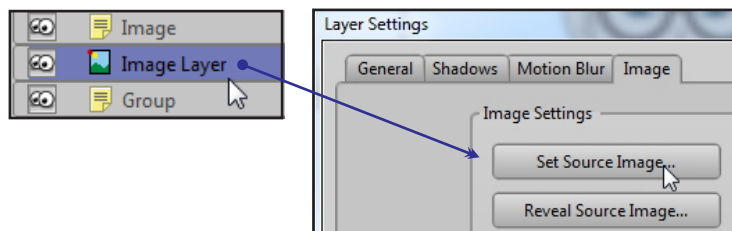
You will quickly discover that vectors are the most commonly used layers in Anime Studio. Unless you plan to use bitmap images for the bulk of your work, you will be selecting this layer type often.

The Image layers

Image layers can be created through the Layers panel like any other layer type or through importing a raster image into the project file. You have limited options when working with Image layers (some of these functions were detailed in our discussion on raster graphics in **Chapter 2, Drawing in Anime Studio**). The **Image Mask tool**, which is located on your toolbar when an Image layer is selected, allows you to clear pixels out of the image. This can be useful if you delete a portion of the image and want to place something behind it. Beyond that, you are limited to the layer tools detailed in the previous section. The Image layer is shown in the following screenshot:



When importing an image, Anime Studio will link the image's location on your hard drive. This means if the image is moved, it will no longer appear or function properly in your document. When opening a document with a broken image, you will be asked to relocate the file. You can go through this process or manually reset the location by double-clicking on your image layer and then go to the Image tab and click on the Source Image button in your **Layer Settings** panel. You have another option for creating a toon effect, which can make the picture look painted when rendered.



NOTE...

In addition to linking your image's location, if you decide to alter the image with another program, that change will be reflected in Anime Studio. The same goes for any external file.

Raster images are not included in **Anime Studio's strong suit**. But the option is there if you need it. Mixing animation with the images usually doesn't result in smooth results. You sometimes get a stutter effect during pans, zoom-ins, and so on. Images usually work best when stationary.

The Group layers

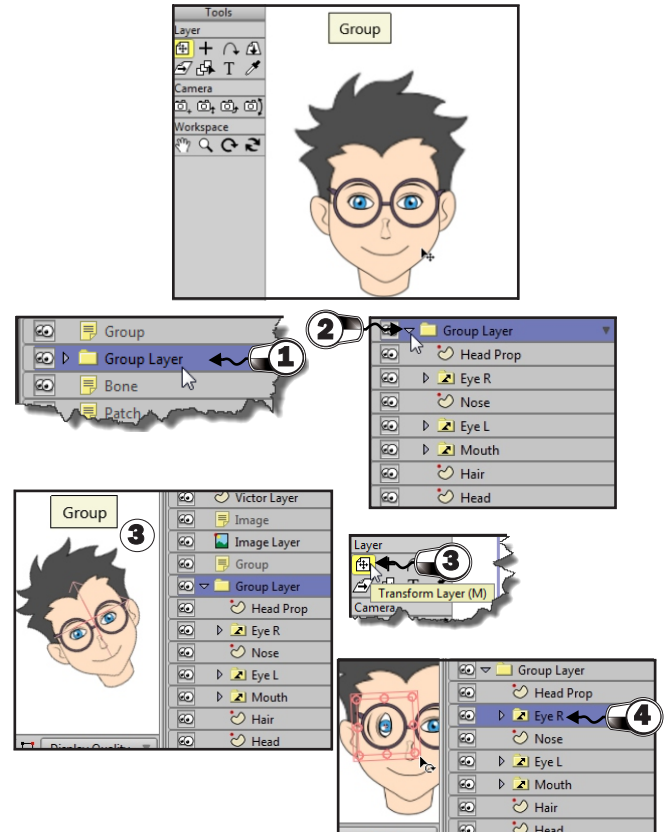
Group layers are essentially folders that contain any type of sublayer. This means you can group all layer types together in one group layer (even more group layers to create nested layers). It's like creating a folder on your computer and putting different types of files and documents into it. This can be useful if you are building complex objects. Also, all sublayers are controlled by the Group layer. As an example, if you use the Transform Layer tool to resize the Group layer, all the sublayers will be resized as well.

The following screenshot shows the Group layer:

Let's take a look at the Group layer in our opened example file.

- 1 Click on the **Group Layer** on the Layers panel.
- 2 To see the three vector layers contained within the group, click on the arrow next to the layer.
- 3 With the Group layer still selected, take the Transform Layer tool and move, rotate, or resize the eye onscreen. Notice how all sublayers in the group layer are altered:
- 4 If you want to alter just one of the sublayers, you will need to click on one and then make your changes.

You will call on this layer type a lot when you get into more complex prop making. Some artists also choose to put all of their elements for a scene into a Group layer so that they can easily edit all the elements at once without affecting any of the nested animation.

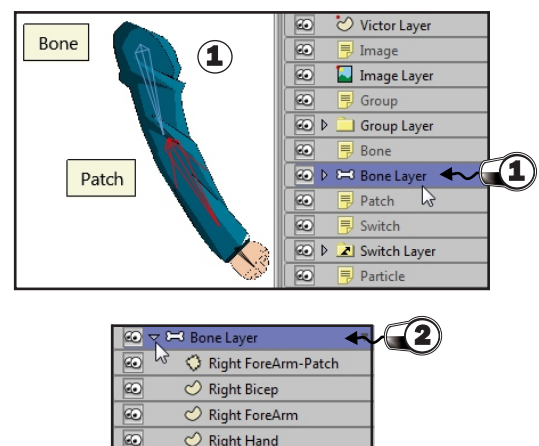


The Bone layers

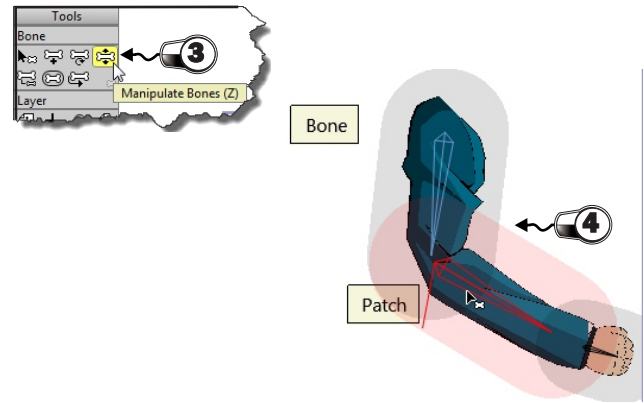
Next to the Vector layer, the **Bone layer** is probably the most used in Anime Studio. This is the layer that makes cut-out or bone animation possible. A series of bones is drawn on the layer itself, which controls all sublayers underneath. In a way, it acts like a Group layer in that it controls whatever layers are in the folder.

Let's take a look at the Bone layer.

- 1 Select the **Bone Layer** from the Layers panel. You should notice three bones appear over the arm. They will look like blue and red (if selected) triangular shaped figures. These were drawn ahead of time for this exercise. We will learn how to draw bones and use the bone tools in depth in Chapter 5, Bringing a Cartoon Character to Life.
- 2 If you click on the arrow next to the **Bone Layer** on the panel, you will see the four sublayers that currently make up the layer.



- ③ Select the **Manipulate Bones** tool (it looks like a horizontal bone with arrows pointing up and down from it) from your toolbar on the left-hand side.
- ④ Left-click and hold on the hand bone. Now drag your mouse back and forth, as shown in the following screenshot. Notice how the bones work in a hierarchy and cause the sublayers to move. This is a very basic example and we'll be getting into more detail when the time comes to construct and animate characters.



Anime Studio was built to use bones, so it makes sense that you will be accessing this layer type often. Mastering how to rig a character can be a rigorous process. What's important now is you understand the function and the use of the Bone layer.

NOTE...

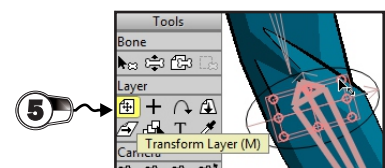
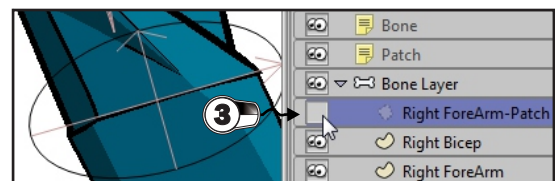
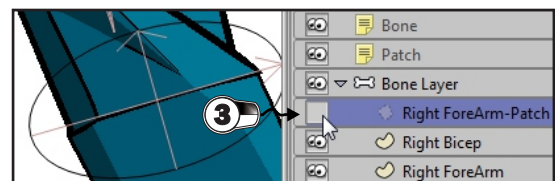
Did you know you can organize your layers by coloring them on the Layers panel? It's easy! Simply click on the area to the left of the show and hide option (the eyeballs). Here, you can choose from a variety of colors. This is great in order to identify layers at a glance.

The Patch layers

The **Patch layer** works in conjunction with the Bone layer and is best used to patch lines or seams between two objects. A good example of this would be if you have an arm or leg made up of two or more layers (just like the arm bone example we previously played with), a patch could be applied between the two layers to hide any ripping, gaps, or glitches that may occur in the animation process.

The steps to be performed on the Patch layer are as follows:

- ① While still on the Bone layer, make sure you have the sublayers exposed by clicking on the arrow next to the Bone layer.
- ② You should see a layer entitled **Right ForeArm-Patch**. This layer is currently acting as a patch between the top and bottom portions of the arm.
- ③ If you click on the hide icon next to the layer, you will see what the patch is hiding. Simply click on the hide icon again to reapply the patch.
- ④ When you make a patch, you are asked to assign a target. In this case, we are targeting the **Right ForeArm** layer. The patch remains above the **Right Biceps** layer to seal off the intersection.
- ⑤ A patch can be moved and resized with the Transform Layer tool.

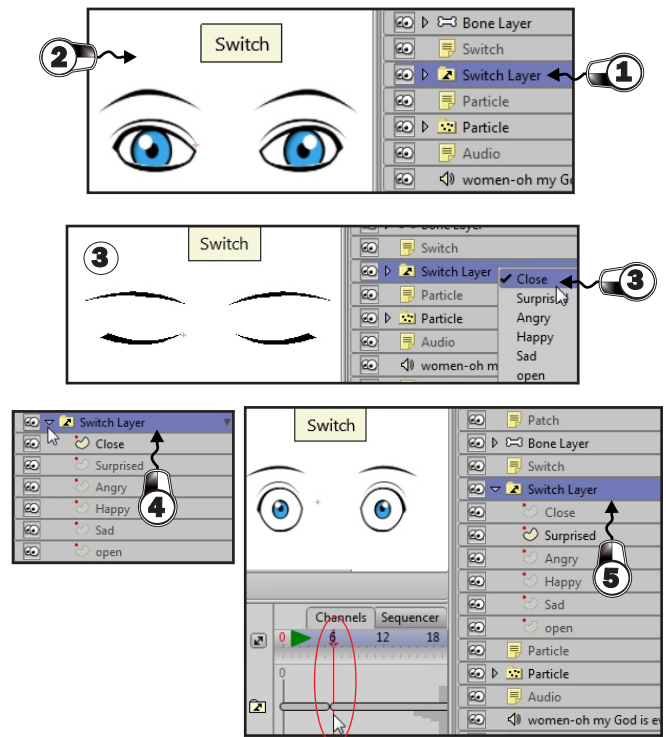


Like the bones, we will be looking at how to apply patches in a more practical setting after we master the basics of Anime Studio.

The Switch layers

Like the Group and the Bone layer, the Switch layer is set up to house different sublayers. The difference is that the **Switch layers** will only display one sublayer at a time. This is useful if you want to create a talking mouth, blinking eye, and so on. Think of it as creating a flipbook for a certain portion of your animation by performing the following steps:

- ❶ Click on the **Switch Layer** in the Layers panel.
- ❷ You will notice on the canvas we currently have a Happy Eyes displayed in the Switch layer.
- ❸ Right-click on the Switch Layer in your Layers panel and choose other expressions from the list. Now notice how the mouth on the canvas appears. This is how you switch back and forth between sublayers in a Switch layer.
- ❹ If you'd like to see which sublayers are in the switch, simply click the arrow next to the Switch layer, just as you would with a Group or Bone layer.
- ❺ When animating, you would advance forward on the timeline; right-click on your Switch layer and choose the desired sublayer. This will swap the layers out as your animation plays out.



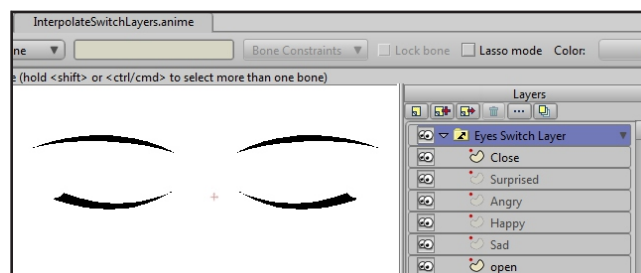
Switch layers are just one of the many ways to create animation in Anime Studio. Once you have your sublayers set up, you can move quickly when it comes to changing poses on the timeline.

NOTE...

With Anime Studio 9.5, you can quickly switch between sublayers by holding in Alt + Ctrl (command for Mac) on your keyboard and right-clicking on the Switch layer on the canvas. A drop-down menu will appear that will allow you to change the sublayer that is currently visible.

One turn off with this layer is that it can make things look choppy. If that's a concern you have but still want to integrate Switch layers into your workflow, you can try using the interpolate points method. If your Switch layers contain the same points with the vector shapes, the object will appear to animate between the two objects with this option checked.

To see how this works, let's open up the work file InterpolateSwitchLayers.anime from your book's work files. Just keep the Layer Types.anime work file open in its current tab, so we can return to it after this exercise.



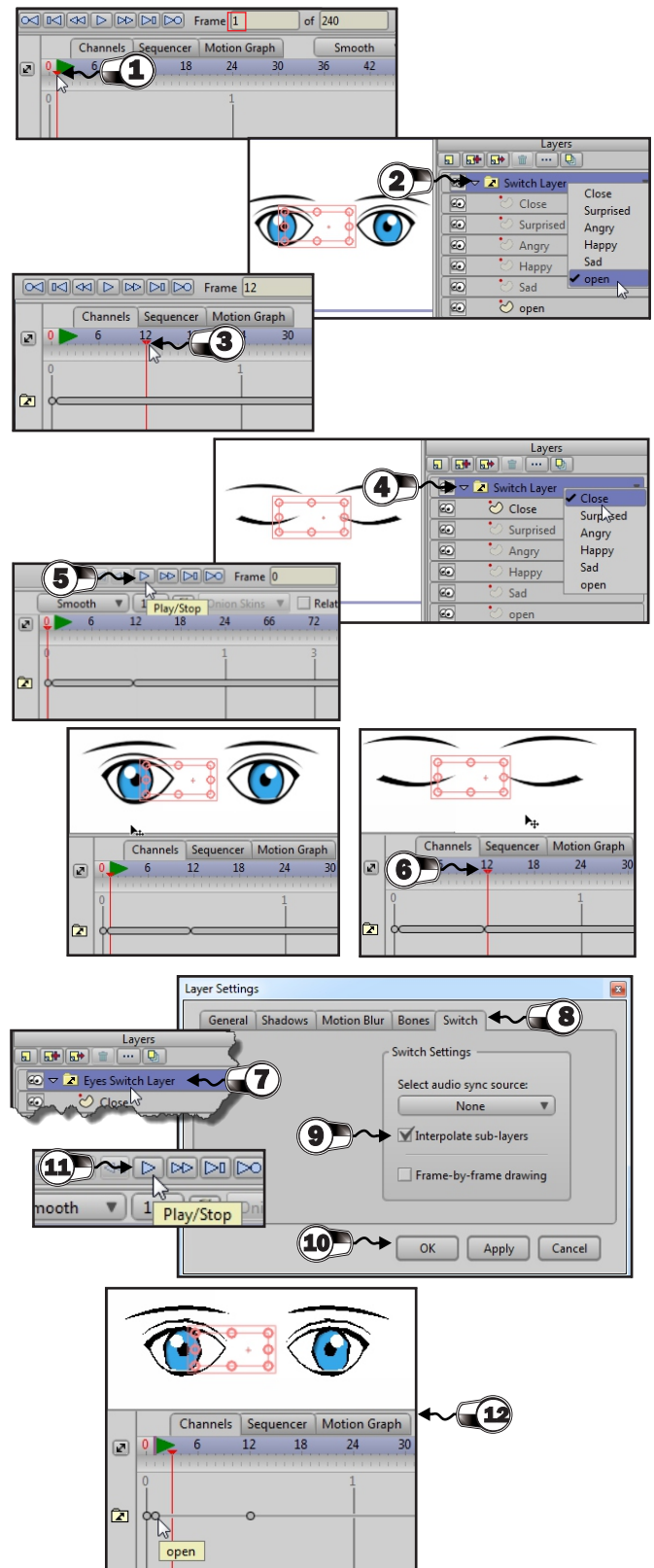
You should see one Switch layer in the document. In the Switch layer, we have six vector layers: one of it indicate a close eyes expression and the others are surprised, angry, happy, sad, and open eyes(or normal). Let's have Anime Studio create the opening animation for us by performing the following steps:

- ❶ Click on **1** on your bottom timeline. This will ensure we are on frame 1 to start our animation.
- ❷ Right-click on the Switch layer in the Layers panel and choose Open from the drop-down menu. The eyes is now open.
- ❸ Page forward or click on frame 12 on the timeline.
- ❹ Right-click on the Switch layer in the Layers panel and choose Close from the drop-down menu. Our eyes is now close. Up to this point, everything should seem familiar from the first Switch layer exercise.
- ❺ Go back to the beginning of your timeline and click on the Play button located in the previous screenshot.
- ❻ The eyes will be open. Jump to its close position at frame 12. Nothing new here. Now, let's add some magic!
- ❼ Double-click on the **Eyes Switch Layer** to bring up the Layer Settings panel.
- ❽ Click on the **Switch** tab.
- ❾ Check the **Interpolate sub-layers** option as shown in the following screenshot:
- ❿ Close the panel, Ok.
- ⓫ Hit the **Play button** again.
- ⓬ You should now see an animation take place with the mouth going from closed to open. You did this using only two layers and a setting change. No manual animation necessary!

The Switch layers have many functions and how you use them will depend on your animation style and workflow. We will be using the Switch layers for our mouths as we dive into animating our cartoon, so you will see how they can work practically in an animation.

HINT...

When you want to interpolate your Switch layers, they must contain the same points. If you are having issues with this, the best way to ensure everything will work is to create your layer with the desired points and then duplicate the layer in the Layers panel. Rename the layer and reposition your points. If you add a point to one layer later on, be sure to add it to the others as well. Think about your most complicated poses. Once those are drawn, creating other poses should be easier.

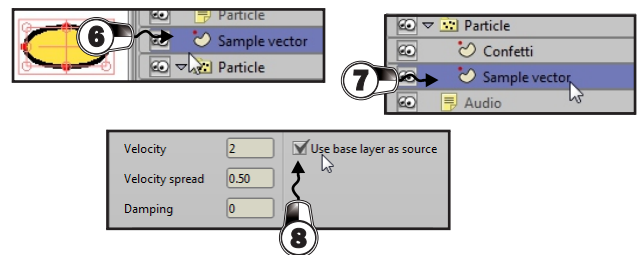
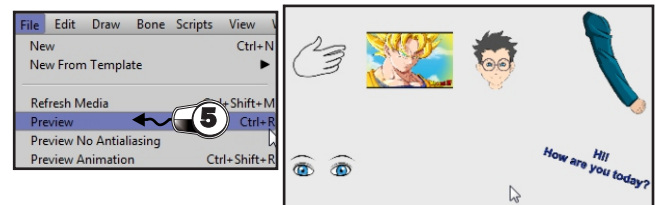
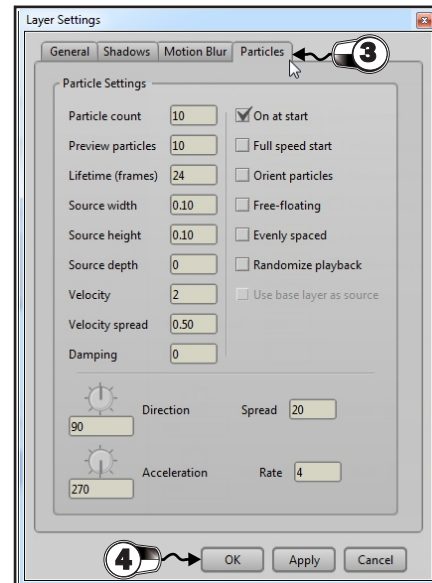
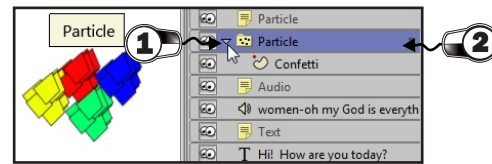


The Particle layers

Particle layers allow us to create multiple instances of an object by tweaking a few settings in the Layer Settings panel. These particles are usually generated and animated through the Layer Settings panel on the Particles tab. All you need to get started is create some sublayers for the particle effect to generate off.

The steps that can be carried out in the Particle layers are as follows:

- ❶ Click on the arrow next to the Particle Layer in the Layers panel. You will notice only one Vector layer rests in the folder; yet on the canvas, we have several copies of this layer sitting in a group.
- ❷ The Particle layer generates these copies using the settings we have in the Layer Settings panel. To access those options, double-click on the Particle layer in the Layers panel.
- ❸ Select the Particles tab. From here, you have the ability to alter many different settings, including how many particles you want to generate, the velocity, direction, and so on. This can be useful for creating smoke, an explosion, rain, and more.
- ❹ It can sometimes be tough finding the right series of settings to create the effect you're looking for. This may require some trial and error. Once you have adjusted your settings, click on OK.
- ❺ Some settings may not render until you preview the frame. To do this, go to File | Preview (Ctrl + R on Windows, command + R on Mac). While this will only allow you to see the current frame, it will give you an idea of what the particle will look like. To fully view a particle effect, you will have to render out the project as a video.
- ❻ A new addition in Anime Studio Pro 11 allows you to use a vector graphic as the source for the particle effect. To do this, create a Vector layer and draw any shape you want. It can be as complex or simple as you like. Multiple shapes will also work.
- ❼ Now place this Vector layer at the very bottom of your Particle sublayers.
- ❽ In your Particle Layer Settings, make sure Use base layer as source is selected.



HINT...

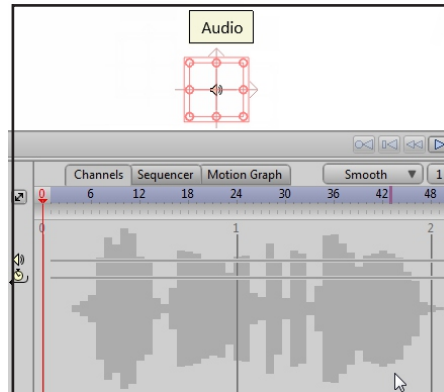
If you are interested in seeing some premade particle effects made with Anime Studio, go to Scripts | Particle Effects and choose one from the list. You'll find that you can make some pretty robust effects with particles.

The Audio layers

The Audio layers, like the Image layers, are generated when you import an object into Anime Studio. In this case, audio files such as .wav, .mp3, or .aiff will create an Audio layer and house the file properties within.

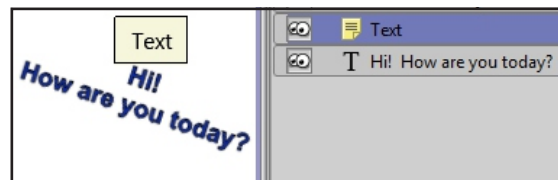
You won't be able to see the audio file on the canvas. But if you click on the Audio layer, you will see an audio file icon show up, indicating that this is indeed an Audio layer. On the timeline, you will see a sound file present; this can help when trying to sync sounds to certain movements. If you scrub through the timeline or hit the play button underneath the canvas, you can hear the audio file play out. The following screenshot displays what an audio file looks like on the timeline:

We will discover that sometimes it's best to add your audio files, especially music, when editing your cartoon in a video editor. Adding audio files while animating it is essential when it comes to syncing sounds, especially voices.



The Text layers

As discussed in the previous section, the Text layers allow you to edit your text properties at any time. To do this, simply double-click on the Text layer in your Layers panel and choose the Text tab. If you decide to create text as a layer through the Layers panel, you will be presented with the same options and settings as the Insert Text tool.



The Note layers

Notes are not used in the actual animation. They are meant to display information on the canvas for the animator to read. This can be useful if you have multiple animators working on a project or if you don't want to forget something. You can see notes currently on the canvas labeling different layers. You can change the information on a note by double-clicking on its layer and entering the appropriate information in the Note tab. You can also alter the layer like any other with the Transform Layer tool. Information on a note by double clicking on its layer and entering the appropriate information in the Note tab. You can also alter the layer like any other with the Transform Layer tool.



Exploring Layers and Timelines

Laboratory Activities

Lab 4.1 Follow Path & Flip

Lab 4.2 Animating Text & Images

Lab 4.3 Enhanced Animation

Lab 4.4 Switching Eyes

Chapter 4 Project 1 What Happen?

Chapter 4 Project 2 Switching Deku

Chapter 4 Project 3 Electro

ENHANCED ANIMATION


Lab Exercise 4.3

Task: Create a Presentation

Expected Output File: Intro.mp4

Work File: kids.jpg, CK logo.jpg & background.png

Mapping out Animation (Channels Timeline)

- ① View the expected output file indicated above.
- ② Open the previous activity.
- ③ On the Layers panel, make all the layers invisible by double-clicking the layer. On the General tab uncheck the Visible checkbox.
- ④ Now we will start our animation, on the Timeline Channels tab move to Frame 24, we will use the Zoom Camera tool the start focusing on the center. This will be our starting action. To do this, click on the **Zoom Camera tool** then click the center of our background then drag until it focuses on the center of the background. The background zoom in and an action point is added on your Timeline as shown.
- ⑤ Next move to Frame 36, click the **Zoom Camera tool** drag the mouse inward until our background goes back to its original position. The background zoom in.
- ⑥ Click **Play button** to see the effect. Your animation starts with zooming in then zooming out of the background.
- ⑦ Now will add some effect on Frame 24. To do this **right+ click** on the point of frame 24 and choose **Bounce** from the selection as shown. A window will prompt you, enter **2** on the Bounce count and click the , if you are done. To view the result of the effect click again the Play button.
- ⑧ You can use the camera tools with creativity, the possibility is endless. Save first this project before we will proceed to the next task.

