

Straight-Ahead and Pose-to-Pose Animation: Lesson 9

Understanding the Principle of Straight-Ahead and Pose-to-Pose

Straight-ahead and pose-to-pose describe two different ways to draw animations. Most animators use a combination of these two techniques.

- **Straight-Ahead:** A traditional way of animating a character. Each frame is drawn or manipulated one after another, from the beginning to the end of the animation. This is also called **frame-by-frame** animation, since the animator draws each and every frame. Straight-ahead is great for creating fast, realistic action scenes, since the movement produced with this principle is very fluid. One downfall to the straight-ahead principle is that sometimes proportions, weight and volume get distorted as the animator moves from one frame to the next.
- **Pose-to-Pose:** A type of animation that involves using set keys (such as the keyframes we use in Anime Studio) to create the flow of animation. Poses are set up at important moments in the animation—typically where an object begins moving, stops moving or changes direction. In the earlier days of animation, pose-to-pose was used by animators to speed up their animation process. Animators would draw key poses throughout the animation, then have their assistants draw the transitions between each pose or come back and draw the poses after the overall actions were decided upon. Digital animation software such as Anime Studio now replicate this process with the use of keyframes, drastically reducing the time required for frame-by-frame animation. Pose-to-pose is of particular value when an animation’s timing is important. For instance, characters who are lip syncing or dancing to music can be animated with pose-to-pose to help match their actions to sound.

Related Project Files

The following related project files are located in the ASCurriculum-Lesson9.zip file that accompanies this course:

- **Layer-1.jpg through Layer-6.jpg** - Images to be imported into the background of your project, to be used as guides for drawing the frame-by-frame animation.
- **Tutorial 9.1.anme** - A final version of the project that you will complete in this lesson.
- **Tutorial 9.1.mov** - A final render of the project that you will complete in this lesson.
- **Tutorial 9.1 How To.mov** - A step-by-step video tutorial of the project that you will complete in this lesson.

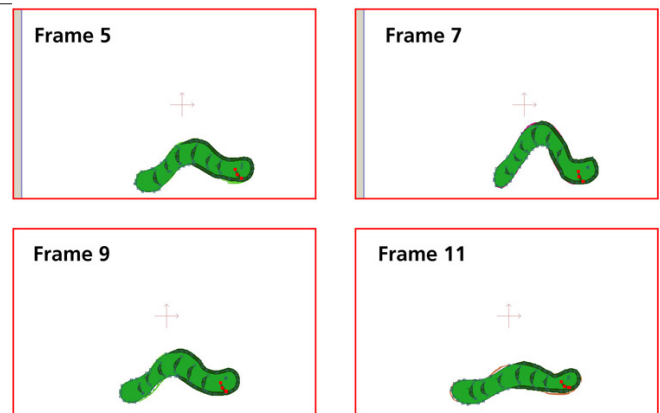
Tools Used

- **Freehand** tool

Tutorial 9: Overview

Up until this point, most of the lessons you’ve been completing have used pose-to-pose animation, since they include the use of keyframes. For this lesson, we are going to use straight ahead (or frame-by-frame) animation to create a brief inchworm animation. Normal frame-by-frame animation is done by drawing each frame or every second or third frame.

Keep in mind that this isn’t what Anime Studio was designed for, since this program was designed to simplify the animation process through the use of keyframes. However, for this tutorial we are going to recreate the frame-by-frame process to help you better understand the straight-ahead principle.



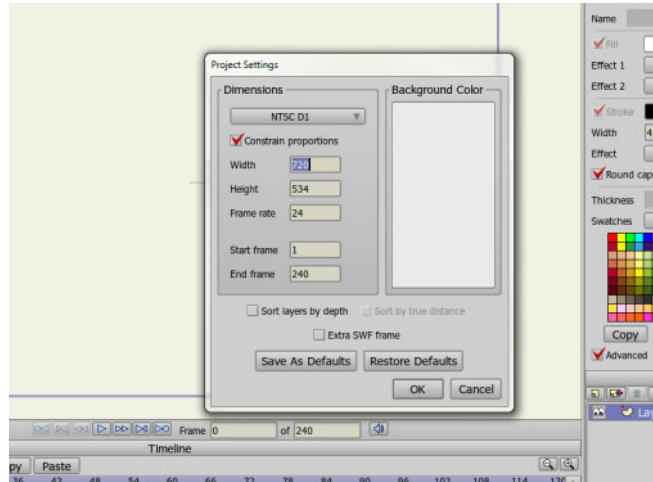
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Tutorial 9: Step-by-Step

Step 1: Setting Project Dimensions

Start with a new scene. The files that accompany these tutorials include a few sketches that you can use as a guide while you draw your inchworm. The sketches are 720 x 534 pixels, so you will want to set your project properties accordingly. Choose **File > Project Settings**, and if it is not already selected, choose **NTSC-D1**. The **Width** field should be **720**, and the **Height** field should be **534**.

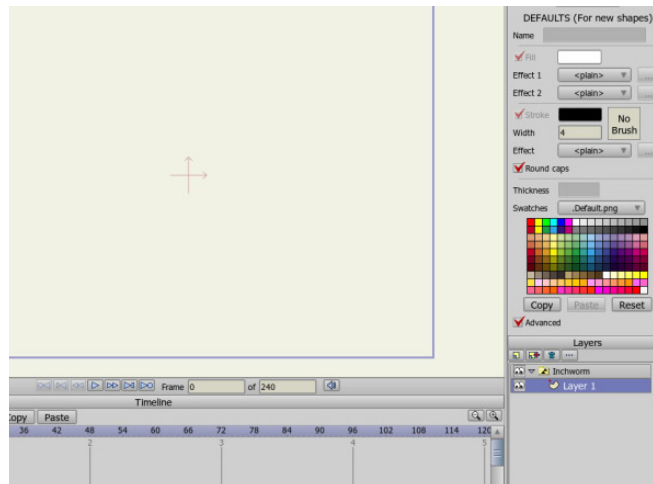
Save your project at this point, naming it Lesson9_YourLastName.



Step 2: Create a New Switch Layer

In the **Layers** window, create a new **Switch** layer. Rename it **Inchworm**. This Switch layer will hold the different poses that are used to animate the inchworm.

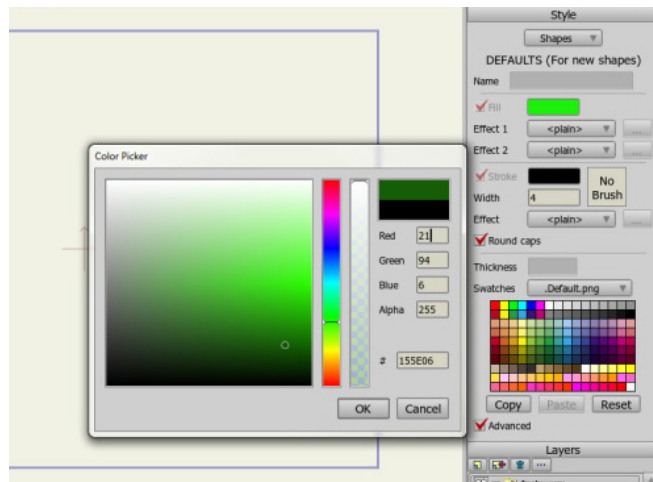
Drag **Layer 1** into the Inchworm switch layer. You will see that Layer 1 will be highlighted in red while you're dragging it into the Inchworm switch layer.



Switch layers are used to group together multiple layers, and only one of their sub-layers can be displayed at a time.

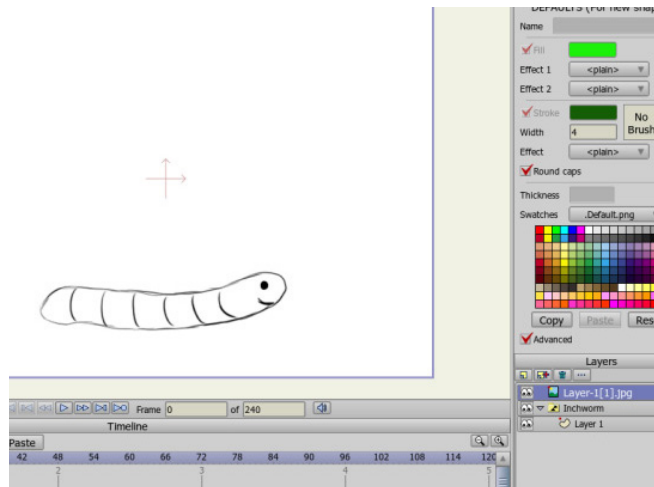
Step 3: Choose Colors

From the **Style** window, choose a medium green **Fill** color and a dark green **Stroke** color.



Step 4: Import a Guide Image

You'll now import the first background picture to use as a guide while you draw. Choose **File > Import > Image**. Select **Layer-1.jpg**. The image appears in the scene. Drag the image layer to the very bottom of the **Layers** list, making sure that it is not nested inside the Inchworm switch layer.

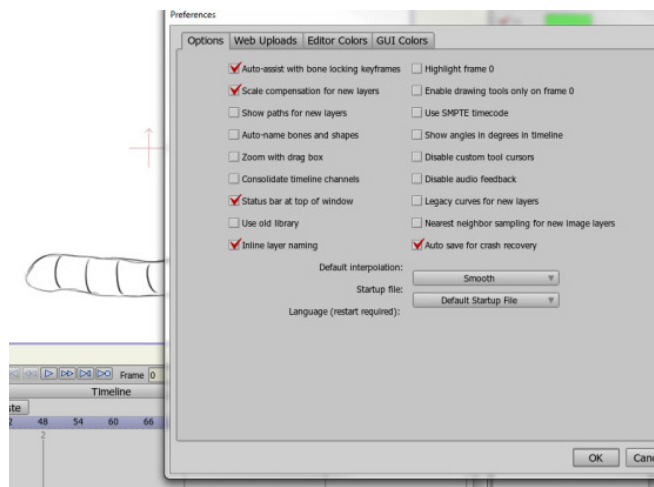


In order to draw on a frame other than Frame zero, you have to instruct Anime Studio to allow it. Choose **Edit > Preferences** and click the **Options** tab if it is not displayed. Uncheck the **"Enable Drawing Tools Only on Frame 0"** option.

You can import background images created in other graphics applications and then trace over the images in Anime Studio.

Step 5: Enable Drawing on Frame 0

In order to draw on a frame other than Frame zero, you have to instruct Anime Studio to allow it. Choose **Edit > Preferences** and click the **Options** tab if it is not displayed. Uncheck the **"Enable Drawing Tools Only on Frame 0"** option.



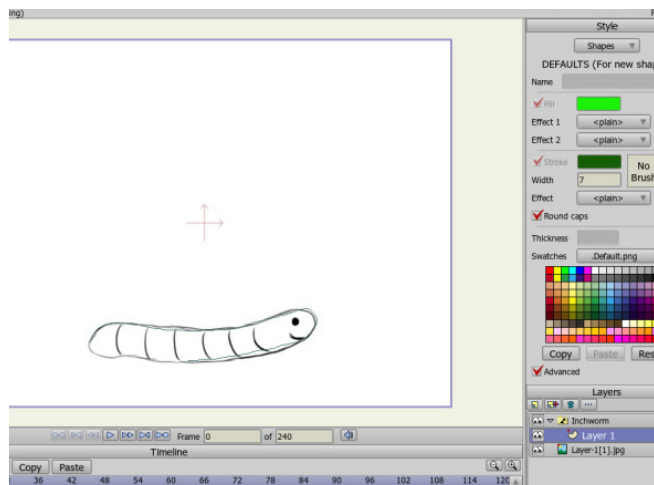
Step 6: Using the Freehand Tool



Select Layer 1 (inside the Inchworm switch layer). Select the **Freehand** tool from the **Draw** toolbox.

The default stroke width is 4 pixels, but you can increase or decrease the width to your liking. Here we set the stroke width to 7. You may decide that you like a narrower or broader stroke instead.

If you have a stylus and tablet you'll probably find it much easier to trace the lines on the background image. If you're using a mouse to draw you'll have to be patient. **Edit > Undo** and **Edit > Redo** will be your friend in either case if you make a mistake, or if you don't like the results.



Freehand drawing, especially with a mouse, takes practice, so don't be concerned if your results aren't perfect. The important thing to learn here are the principles of frame-by-frame animation.

For further information on the **Freehand** tool, refer to the Anime Studio Debut Users Manual.

Alternately, you can draw the basic shape with the Add Point tool, and then add details with the Freehand tool.

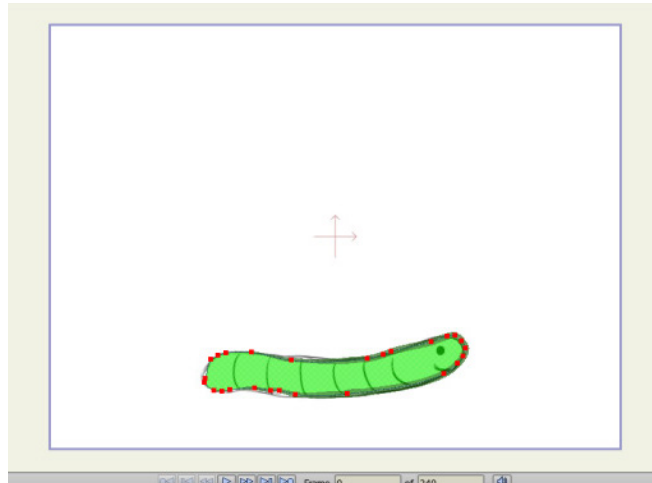
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Step 7: Adding Freehand Outlines



When you draw the outline of the inchworm, make sure that **Auto Weld**, **Auto Fill** and **Auto Stroke** are checked. This will automatically fill and stroke the inchworm with the selected colors when you close the shape.

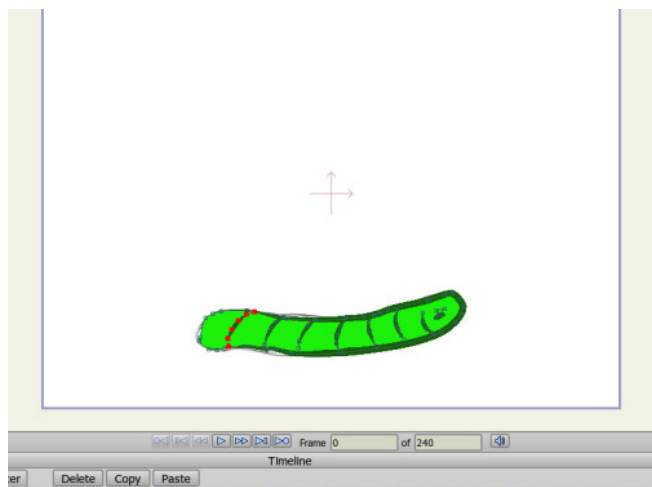
With **Layer 1** selected in the **Layers** window, trace the outline of the inchworm as close as you can. When you close the shape, it will fill with the fill color.



Step 8: Adding Freehand Details



To draw the accents in the inchworm, uncheck the **Auto Weld** and **Auto Fill** options in the properties bar. Then add your details as needed, such as the stripes on the Inchworm (see example).

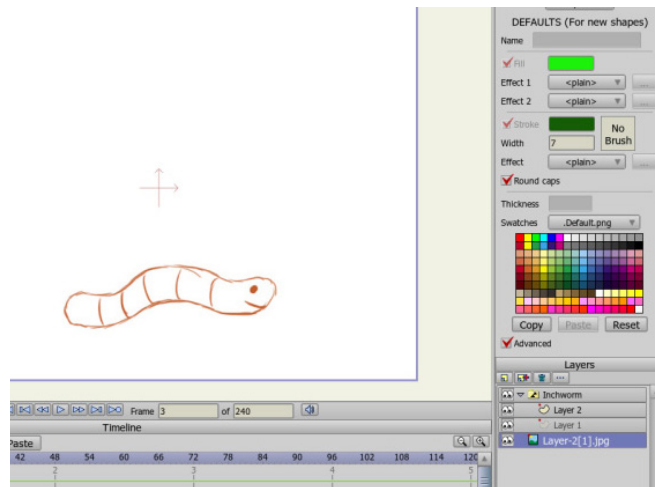


Step 9: Creating the Next Frame



The remaining layers in the switch folder are done in pretty much the same way. You'll create a new layer for the next frame, delete the background image and load the next one, and then draw your new inchworm for that frame.

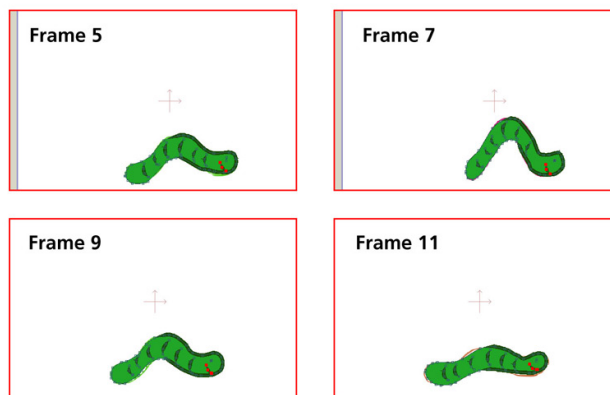
- Advance to **Frame 3**. Click on **Layer 1**. Now click on the **New Layer** icon in the Layers window and select **Vector**. This will automatically add **Layer 2** to the Inchworm **Switch Layer**.
- Now **delete** the existing image (Layer-1.jpg) by clicking on the **trash** icon in the Layers window. Import **Layer-2.jpg** and drag the image layer to the very bottom of the Layers list, making sure that it is not nested inside the Inchworm switch layer. With **Layer 2** selected in the **Layers** window, choose the **Freehand** layer tool and turn **Auto Weld** and **Auto Fill** back on. Trace the outline of the inchworm. Then add the details with **Auto Weld** and **Auto Fill** turned off.



Step 10: Creating Additional Frames



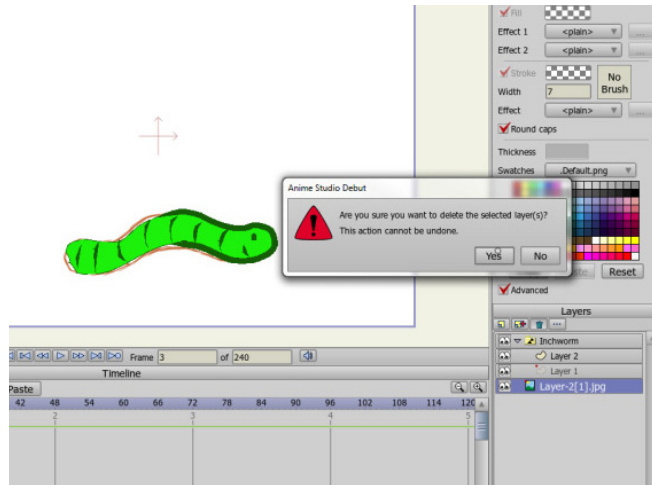
- At Frame 5, create Layer 3 in the same manner, using Layer-3.jpg for the background image.
- At Frame 7, create Layer 4 using Layer-4.jpg for the background image.
- At Frame 9, create Layer 5 using Layer-5.jpg for the background image.
- At Frame 11, create Layer 6 using Layer-6.jpg for the background image. This is the last frame that you will sketch on.



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Step 11: Delete the Background Image

Delete the background image layer (Layer-6.jpg) from your project by clicking on the **trash** icon in the **Layers** window, and then save your project.



Step 12: Cycling the Animation

As you've learned in previous lessons, you can use Animate Studio's **Cycle** feature to create a looping animation. Move to **Frame 13** and right-click to add a keyframe. Then right-click again and choose **Cycle** from the menu that appears. Cycle the animation back to the first frame (which is the default entry in the dialog). Play the animation and watch your inchworm crawl in place. Save your project again when you are done, and then render your animation.

