ANIMATE

ANIMATION UNLIMITED

Getting Started Guide

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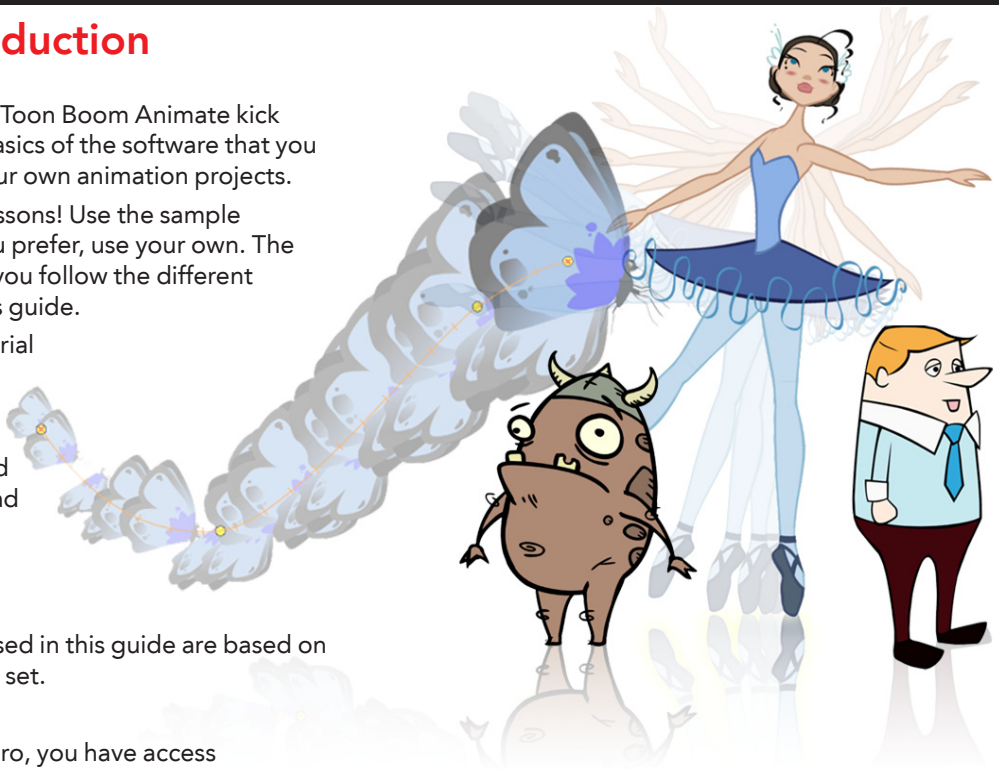
Chapter 1 Introduction



This guide is the absolute Toon Boom Animate kick start kit covering all the basics of the software that you need to get started on your own animation projects.

Discover Animate in 12 lessons! Use the sample material provided or if you prefer, use your own. The sample material will help you follow the different exercises contained in this guide.

To install the sample material provided, simply follow the installation instructions on the installation disc, at the end of this chapter or download them from our website at toonboom.com.

The keyboard shortcuts used in this guide are based on the Adobe®Flash® shortcut set.

If you are using Animate Pro, you have access to additional exclusive features that are not available in Animate. The Animate Pro Getting Started Guide adds chapters and lessons covering these extra features.

Your Training Outline

Are you ready? Let's take a first glance at the training outline covered in this guide.

Chapter 2 Creating Your Own Animation

Get to know the basics of Animate while you create a butterfly from some simple shapes and animate it.

Chapter 3 Gathering Content

Learn how to import external content such as multilayer PSD and QuickTime movies to build a scene out of it.

Chapter 4 Designing a Character

Learn to use the basic drawing tools available in Animate as well as many helpful features for the design tasks. Starting from the rough design through to the Ink and Paint process.

Chapter 5 Painting Your Character

Get to know the different painting tools, the Tools Properties and the Palette concept in Animate while painting a character.

Chapter 6 Using Symbols to Animate a Skateboard

Learn the concept of Symbols in Animate, and how to use them while creating a simple skateboarding animation.

Chapter 7 Creating a Simple Hand-Drawn Animation

Learn the different tools and features available to you in Animate that let you easily create paperless animation.

Chapter 8 Building a Cut-out Puppet

Learn the different steps and tasks involved in creating a cut-out puppet, from breaking it down to rigging it.

Chapter 9 Animating Your Puppet

Learn how to use the different animation tools available in Animate while animating a cut-out puppet.

Chapter 10 Creating a Multiplane and Animating the Camera

Learn how to use Animate's different views and tools to create multiplane effects and give the illusion of depth and 3D space to your project.

The aspect ratio is the relation between the width and height of any scene, frame or film format. The TV ratio is 4:3 and the widescreen is 16:9.

Chapter 11 Sound and Lip-Sync

Get to know the different sound and lip-sync tools while creating a quick lip-sync animation. Learn how you can share your animation by exporting it in a QuickTime movie format.

Chapter 12 Morphing a Flag

Get to know the Morphing tools and features while you create an animation of a flag.

Chapter 13 Creating Effects (Animate Only)

Learn how to enhance the quality of your projects using the effect layers in the Timeline view.

* **Note** that this chapter is **ONLY** valid for Animate. In Animate Pro, the effects are not created using the Timeline view, but using the Network view, exclusive in Animate Pro. Refer to Chapter 5 of the Animate Pro Getting Started Guide to learn how to add effects using Animate Pro.

The Ease-in is a gradual acceleration in the action.

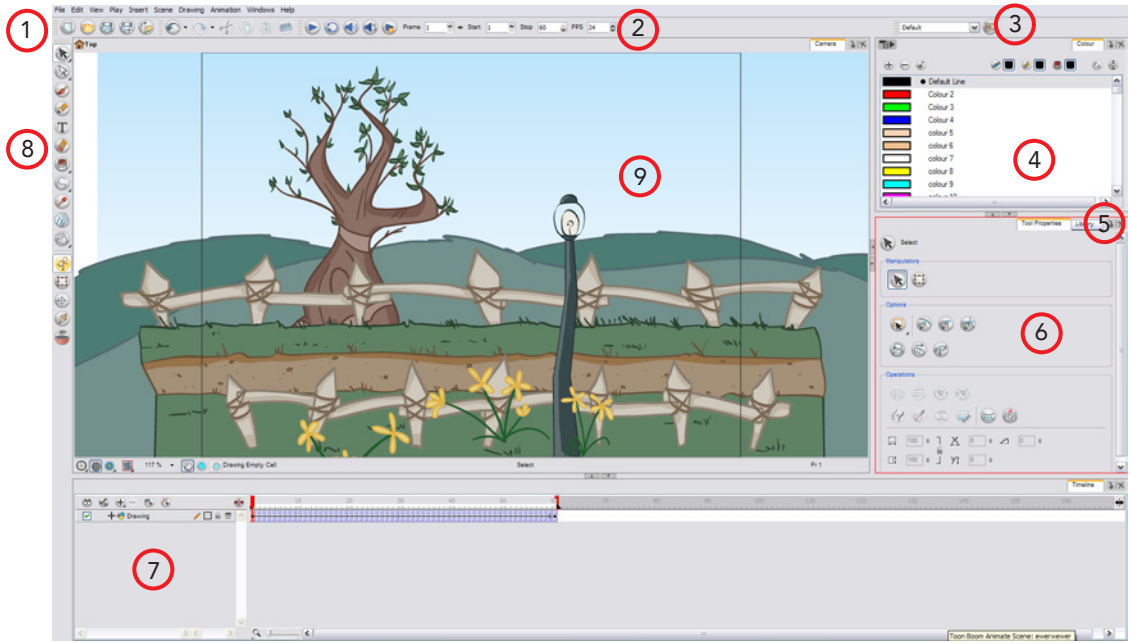
Interface Highlights

It's important that you familiarise yourself with the interface before you start to navigate through Toon Boom Animate. As you work through this guide and learn to use the software, you can refer to the following section whenever you need to identify a specific view or toolbar.

Note: The numbers in this list correspond to the numbers in the interface diagram on the following page.

1. **Top Menu**
   Contains most of the commands available in the software in the Top menu.
2. **Playback Toolbar**
   This is used to play your animation, loop it, change the playback range and temporarily modify the frame rate.
3. **Workspace Toolbar**
   This is used to customize and load different workspaces.
4. **Colour View**
   This is used to select, create and modify colours. You can also create specific palettes and palette styles for your characters.
5. **Library**
   This is used to store and reuse Symbols and templates. Anything you create in Animate, you can store in the Library.
6. **Tool Properties View**
   Contains the options related to the currently selected tool. When you work with a tool, you will often use the Tool Properties view to either alter a selection or change the tool's behaviour.
7. **Timeline View**
   This is mainly used to add layers, change the timing, create effects* and order your elements. You can also change the scene length, create Symbols and templates, enter Symbols and add keyframes.
8. **Tools Toolbar**
   Contains most of the drawing and animation tools you will use when working in Animate.
9. **Camera View**
   This is the centre of your operations. This is where you draw, paint, animate, position your elements, and view the animation playback and results of any effects you add.

*** Available ONLY in Animate. For Animate Pro, see the Animate Pro Getting Started Guide.**



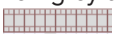
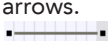
In Animation, the Ease or velocity, is the acceleration or deceleration of a motion. This can be a motion created by a function curve or a series of animated drawings. Other common terms used are slow-in and slow-out.

Timeline View Legend

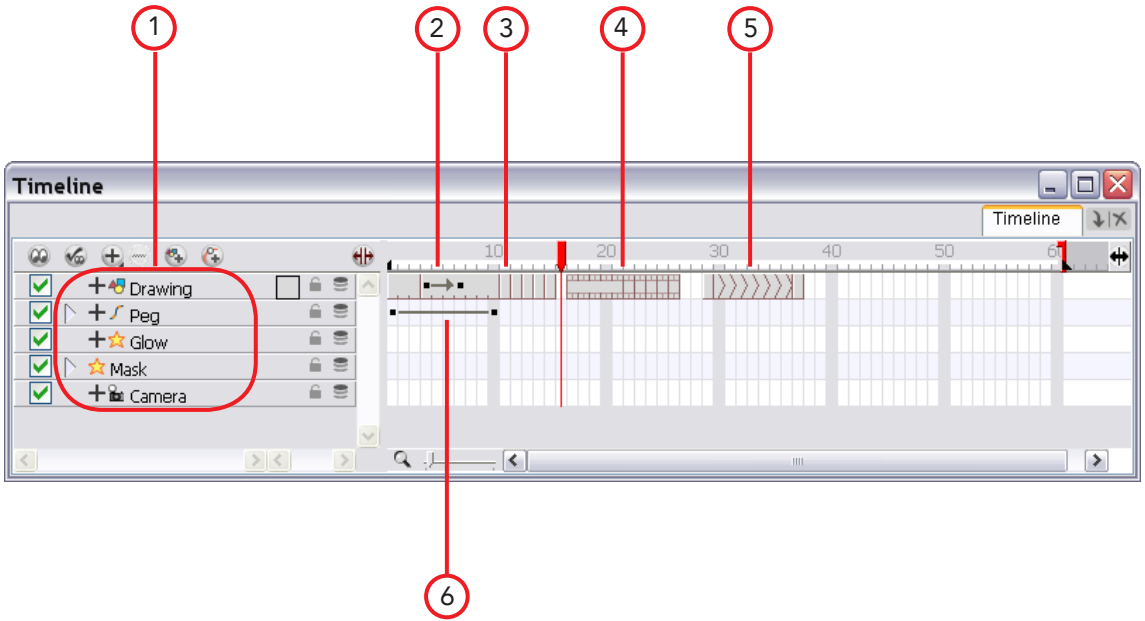
The Timeline view is the main view used to adjust the timing of your drawings, connect effects* and order layers.

Refer to the following legend to learn about the Timeline.

Note: The numbers in this legend correspond to the numbers in the Timeline View on the following page.

1. Layers used in the Timeline view:
   - Drawing
   - Peg
   - Mask
   - Camera
   - Effect
   - Sound
2.
   When position keyframes are added on a Drawing layer, they are displayed as black squares. When interpolation is created between these keyframes, an arrow is displayed.
3.
   An exposed drawing is represented by a grey block. Exposing the drawing for several frames extends the grey block. Exposing a second drawing displays a new grey block.
4. 
   An exposed Symbol is represented by a small film frame. Exposing a Symbol for several frames extends the film frame. Exposing a second Symbol's frame displays a new film frame.
5.
   When a Morphing sequence is created, it is represented by a series of arrows. The key drawings are still represented as grey blocks, but the morphed in-betweens are shown as a series of grey arrows.
6. 
   When a Peg layer contains keyframes, they are represented by black squares. A Peg layer is a motion path which you can attach drawing layers to. When an interpolation is created, a straight line is displayed between the keyframes.

*** Available ONLY in Animate. For Animate Pro, see the Animate Pro Getting Started Guide.**


1
2
3
4
5
6
Timeline
Timeline
10
20
30
40
50
Drawing
Peg
Glow
Mask
Camera

Buttons

In this guide, you will find tools that you will use frequently. Most tools have a button. Recognizing these allows you access the tools faster. You can find the most common ones on the next page.

- **Edit**: The Edit tools are used to copy, cut, paste, delete a selection and cancel actions.
- **File**: The File tools are used to import images, open, close and save scenes.
- **Animation**: The Animation tools are used to position and animate your elements on your stage.
- **Morphing**: The Morphing tools are used to set morphing hint points in your morphing sequences.
- **Selection**: The Selection tools are used to select drawing strokes and modify them.
- **Drawing**: The Drawing tools are used to draw and design your characters and backgrounds.
- **Drawing Mode**: The Drawing Mode tools are used to change a drawing tool behaviour.
- **Onion Skin**: The Onion Skin tool is used to view previous and next images.
- **Light**: The Light tool is used to see your other columns in the Drawing view.
- **Paint**: The Paint tools are used to paint your drawings.
- **Gap Closing**: The Gap Closing tools are used to close gaps while painting.
- **Gradient**: The Gradient tools are used to edit your gradient zones.
- **View**: The View tools are used to navigate in the Camera and Drawing views.
- **Drawing Markers**: The Drawing Markers tools are used to identify drawings in the Xsheet view.
- **Layers**: The Layers tools are used to add different types of layers in the Timeline view.
- **Flatten**: The Flatten tools are used to flatten drawing strokes.
- **Playback**: The Playback tools are used to play back your animation.
- **Sound**: The Sound tools are used to edit and play back the sound.
- **Ease**: The Ease tool is used to adjust your animation's velocity.
- **Layout**: The Layout tool lets your organize your workspace.

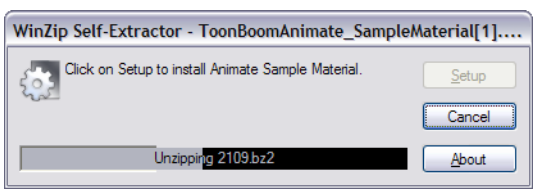
Edit
File
Animation
Morphing
Selection
Drawing
Drawing Mode
Onion
Light
Paint
Gap Closing
Gradient
View
Drawing Markers
Layers
Flatten
Playback
Sound
Ease
Layout

Sample material setup guide

Templates and sample files will be required for some of the lessons in the Getting Started Guide. You must first install them, then follow steps to use them in your project.

Step-by-step installation

1. Go to the following web page: toonboom.com/products/animate/eLearning/*
2. In the Tutorials section download the Sample Material package.
3. Once the package is downloaded, double-click on it to launch it.
4. Follow the installer's instructions.



To use the templates

To use the templates:

1. Launch Toon Boom Animate.
2. Create a new blank project.
3. In the Library view, click on one of the following folders to view the sample material content:
   - Templates
   - Templates > Undone_example_Sample_material
   - Templates > Completed_examples
4. Select a template from the right-hand side of the Library view.
5. Click and drag that template to the left-hand side of the Timeline view and drop it where the layers are ordered. You can also drop it directly in the Camera view.

   The template now appears in both the Timeline and Camera views and is ready to be animated!

* For Animate Pro go to: toonboom.com/products/animatepro/eLearning/

Files in the Library view

Here are the types of files you will find in the templates folder:

- Undone_example_Sample_material
  Prepared scenes to be completed during lessons in the Getting Started Guide.
- Completed_examples
  The resulting scene files for completed lessons in the Getting Started Guide.
- Templates
  Various elements that can be used to completed some of the lessons in the Getting Started Guide.

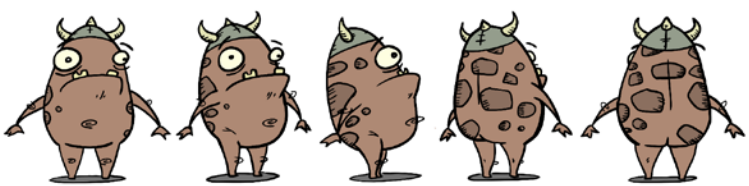
Extra sample material

You will need to browse and import some extra files from the following location*:

- **Mac**: /Applications/Toon Boom Animate 2/Templates/Samples
- **Windows XP**: C:\Documents and Settings\All Users\Documents\Toon Boom Animation\Toon Boom Animate 2\Templates\Samples
- **Windows Vista and 7**: C:\Users\Public\Documents\Toon Boom Animation\Toon Boom Animate 2\Templates\Samples

Files for chapters 3, 5 and 11:

- background_tv.psd
- SuperHero_Soundtracks (3 sound clips)
- Textures (16 examples)



* For Animate Pro, browse for Toon Boom Animate Pro 2 rather than Toon Boom Animate 2.

toonboom.com/animatepro/

Need More Animation Power ?

Go PRO

Toon Boom Animate Pro is the professional version of Animate. Building upon Animate's capabilities, Animate Pro delivers additional exciting and powerful features that will make your creative process easier and smoother.

Scan and vectorize drawings following traditional methods
Create rich-looking effects and advanced puppet rigging
Sketch and design with textured brush styles
Access advanced traditional animation features
Output simultaneously to different resolutions and formats

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Chapter 2 Creating Your Own Animation

Creating a basic animation from start to finish in Toon Boom Animate is child's play. In a few easy steps you can have a colourful butterfly fluttering its way across your screen!

This chapter contains the following topics where you will learn how to create new projects, select colours, use drawing tools, animate drawings and layers, and finally export your project.

The topics are:

- Creating a New Project
- Choosing a Colour
- Getting Ready to Draw
- Drawing a Butterfly
- Animating the Butterfly
- Animating the Butterfly Layer
- Exporting Your Project

Creating a New Project

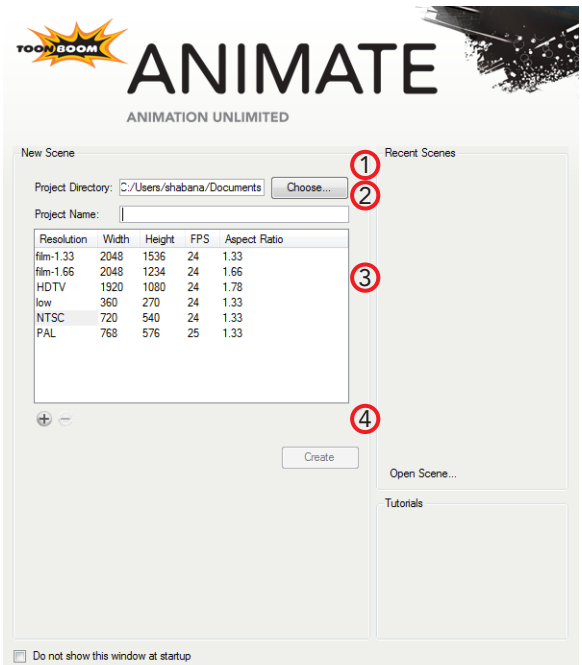
To start any animation, you need to create a new project from the Welcome Screen. You can also create new projects from the main interface's File menu.

To create a new scene:

1. In the Welcome Screen, click on the Choose button to select the directory where to save the project.
2. In the Project Name field, type the name of the new project.
3. In the Resolution list, select a resolution for the project.
4. Click on the Create Button.

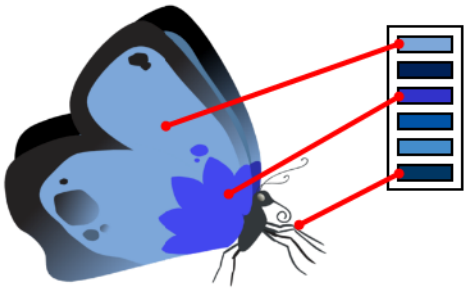
If you need to reopen a project, you can open it using the Welcome Screen and clicking on the Open Scene command.

You can also open it in **File > Open** or by clicking on the Open button in the File toolbar.



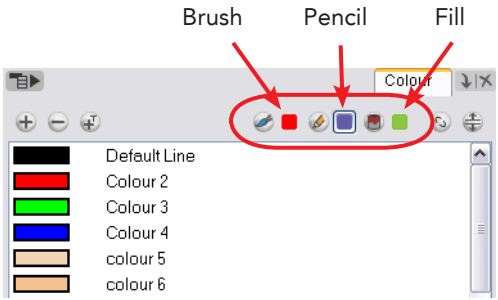
To create a custom resolution for your scene, refer to the Animate User Guide.

Choosing a Colour



The first thing you will do is to select a colour for your butterfly.

Toon Boom Animate has a colour palette which consists of a group of colour swatches. The important point to remember is that when a zone is painted with one of these colour swatches, that zone is linked to the swatch. This means that if you modify the swatch's colour, the zone is updated at the same time!

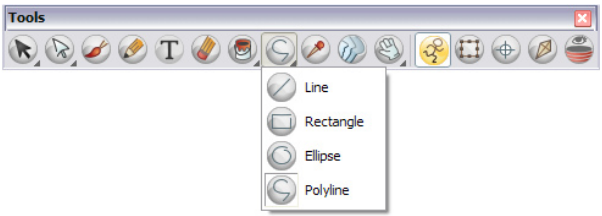


The Colour view can keep track of the colour you were using the last time you were using either the Brush tool, Pencil line tool (Pencil, Polyline, Line, Rectangle or Ellipse) or Paint tool.

- If you would prefer the Colour view to always use the selected swatch, click on the Link button. Once the colours linked, the Link button will look like this .
- In the Colour List, select the colour you want to use to draw the butterfly's wings.

Double-click on a swatch to access the Colour Picker window and modify the swatch's colour. You can also click in the H, S, V, or R, G, B radio buttons to modify the picker display.

Getting Ready to Draw



To design the butterfly, use the following tools found in the Tools toolbar:

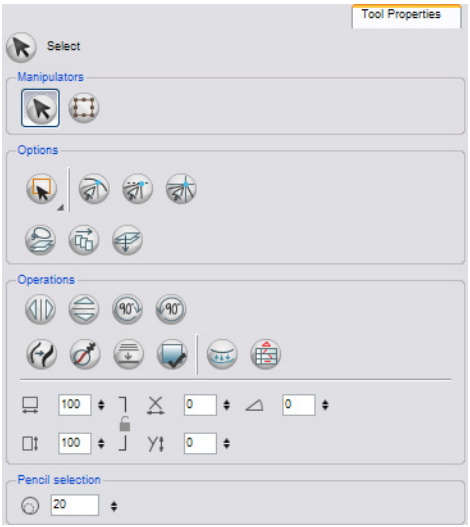
- Rectangle Tool

  Use this tool to draw a rectangle.
- Contour Editor Tool

  Use this tool to reshape lines.
- Select Tool

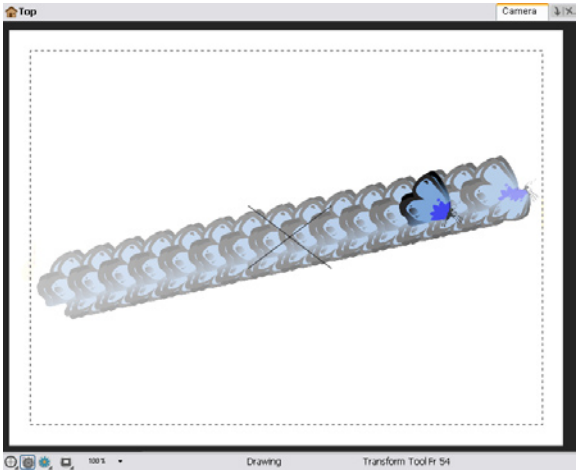
  Use this tool to reposition, scale, skew, rotate or delete drawing objects.
- Paint Tool

  Use this tool to paint the drawings.



Each tool has a set of properties that can be found in the Tool Properties view. This way, each time you select a tool, you have quick access to the main actions performed with this tool.

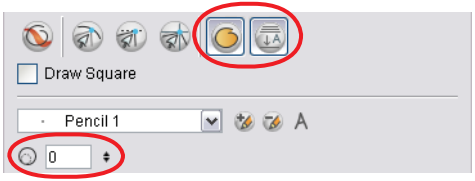
If you need a drawing tool for a very short period of time, hold down its shortcut key without the [Alt] key while you use the tool. Once done, release the hot key.



Most of the drawing, animation, design and scene setup occur in the Camera view. By default, when you draw in the Camera view, the lines are anti-aliased using the project resolution. To view the lines as plain vector, disable the antialiasing property in the Preferences panel.

1. To start drawing in the Camera view, select the cell where you want to draw by clicking on it in the Timeline view.

2. In the Tools toolbar, select the Rectangle tool.



3. In the Tool Properties view, enable the following options:

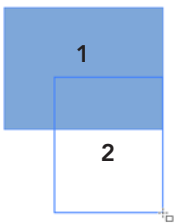
   - Automatically Fill Inside Region
   - Auto-Flatten

4. Set the tool size to 0 (zero) so you do not have any border around the shape.

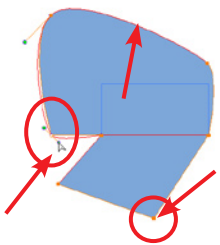
Disabling the antialiasing preference. In Windows, Edit > Preferences > OpenGL > Real-Time Antialiasing. For Mac, Animate > Preferences > OpenGL > Real-Time Antialiasing. In both cases uncheck the Enable box.

Drawing a Butterfly

In the Camera view, you will draw a butterfly using the Rectangle and Contour Editor tools. This will help you to learn how to design characters out of shapes instead of just drawing their contours with the Brush tool.



1. In the Camera view, draw two rectangles to form the basic shape of the first wing.
   A warning message opens to indicate that you are not displaying the invisible lines.
2. Click on the OK button to ignore the message.
   ▶ If you want to see the invisible line, select **View > Show > Show Strokes** or use the default keyboard shortcut [D].

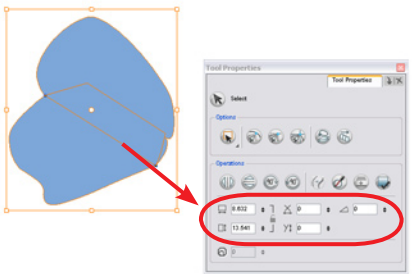


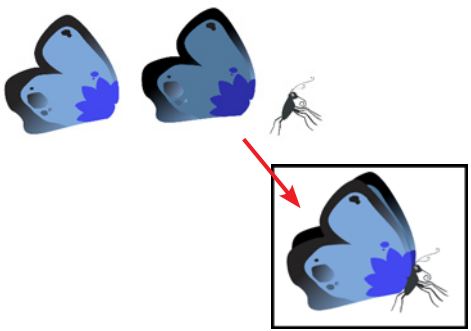
3. In the Tools toolbar, select the Contour Editor tool.
4. Select an area of the drawing and move the rectangles' contours to form a butterfly wing in the up position.

You can modify a shape by doing one of the following:

- Directly moving the point
- Pulling the stroke between two points
- Rotating and pulling on a point's Bezier handle

With the Contour Editor tool, move one of the two Bezier handles by holding down the [Alt] key and nudging selected points using the arrow keys. You can add a point by using the [Ctrl] key and clicking.





5. In the Tools toolbar, click on the Select tool and select the wing in the Camera view.
6. Rotate and resize the wing. You can do this using the Tool Properties view or by moving the anchor points on the selection bounding box.
7. Using the Ellipse tool and different colours, draw a series of circles and ellipses on the wing.
8. Select the butterfly wing and select **Edit > Group > Group** to group the wing as one element.
9. If you have finished drawing, disable the Auto-Flatten mode in the Tool Properties view.
10. Next, draw the butterfly's body and duplicate the first wing by copying and pasting it.
11. Assemble the butterfly using the Select tool.

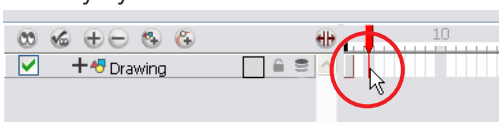
    Bring the wings in front of or behind the body using **Drawing > Arrange > Bring to Front** or **Send to Back**.

You can group a selection by using the default keyboard shortcut [Ctrl]+[G] (Windows), [⌘]+[G] (Mac) or Edit > Group > Group. This shortcut is valid only when working in the Camera or Drawing view.

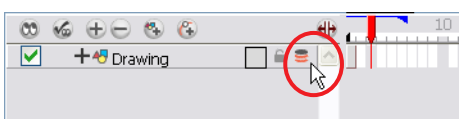
Animating the Butterfly

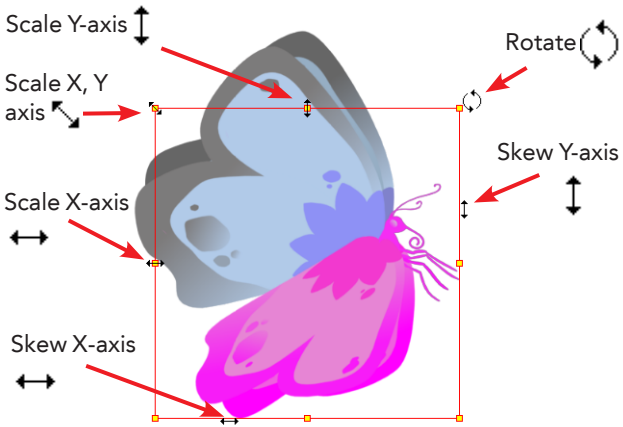
To animate your butterfly:

1. In the Tools toobar, select the Select tool.
2. In the Camera view, select the entire butterfly drawing.
3. Select **Edit > Copy Drawing Object**.
4. In the Timeline view, select the third cell of the butterfly layer.



5. Paste the butterfly drawing into Camera view using **Edit > Paste Drawing Object**.
6. To see the previous drawing, enable the Onion Skin button in the butterfly layer.



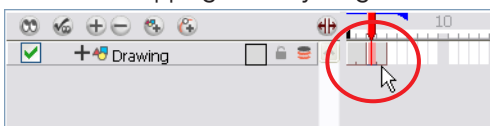


Next, create a second drawing with the wings in the down position and the trick will be done!

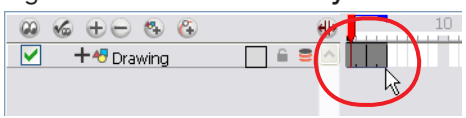
7. In the Timeline view, select cell #3.
8. In the Camera view, using the Select tool, select the wings and flip them vertically moving the bounding box's anchor points.
   You can use **Drawing > Transform > Flip Vertical** or the keyboard shortcut [5].

If you want to extend the exposure of one of your drawing, in the Timeline view, select your drawing and then press the [+] key once to increase the drawing's exposure by one cell.

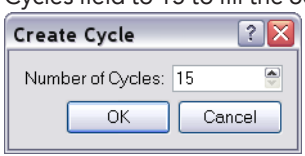
9. Adjust the wings using the Select tool.
   In the Timeline view, make sure the second butterfly drawing is selected and then press the [+] key once to increase the drawing's exposure by one cell. You now have a flapping butterfly wing.



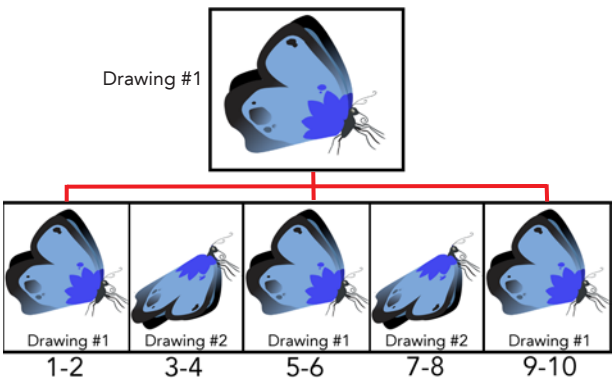
10. In the Timeline view, select the four butterfly cells. Right-click and select **Create Cycle**.



11. In the Create Cycle dialog box, set the Number of Cycles field to 15 to fill the 60 frames length.



You now have an animation 60 frames long.



You can easily modify the colour or design of the butterfly, if you like. The looped drawings are linked to the original ones, so you can modify any of the butterflies with the wings in the up position on the layer and all of them will update. You can also do the same for the butterflies with the wings in the down position.

You can use the [+] and [-] keyboard shortcuts to increase or decrease a selected cell's exposure.

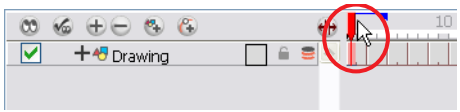
Animating the Butterfly Layer

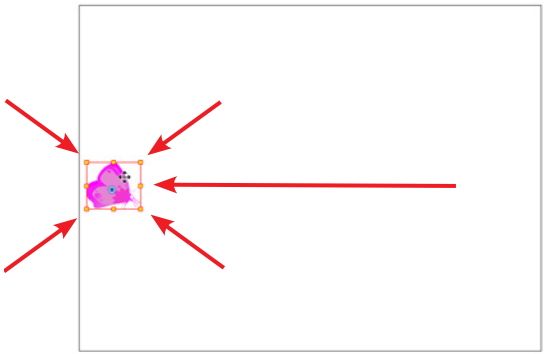
It's easy to animate a layer, press two buttons, position your drawing and you're done!

1. In the Tools toolbar, enable the Animate mode.

   The default keyboard shortcut is [Shift]+[A].
2. In the Tools toolbar, select the Transform tool.

   The default keyboard shortcut is [Alt]+[Q].
3. In the Timeline view, go to the first frame.



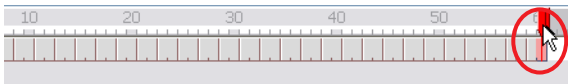


4. In the Camera view, select the butterfly and move it to the left or right of your screen depending on how you designed the butterfly.
   - When you move the butterfly using the Transform tool a keyframe is automatically created in the Timeline view.
5. Use the bounding box's corner anchor points to scale it down.

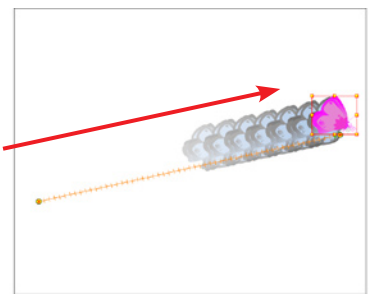
The butterfly should be small enough for it to be able to fly across the screen over 60 frames.

To animate a layer, use the Transform tool and enable the Animate mode. If you want to reposition a layer without animating it, disable the Animate mode.

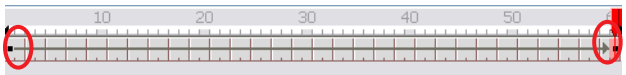
6. In the Timeline view, go to the last frame.



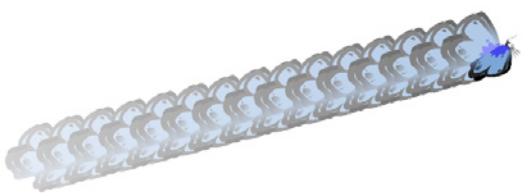
7. In the Camera view, move the butterfly to the other side. You can press [Shift]+[F11] (Windows) or [⌘]+[F11] (Mac) to view the path.



By default, the interpolation is automatically calculated between the keyframes. There is no need to do anything.

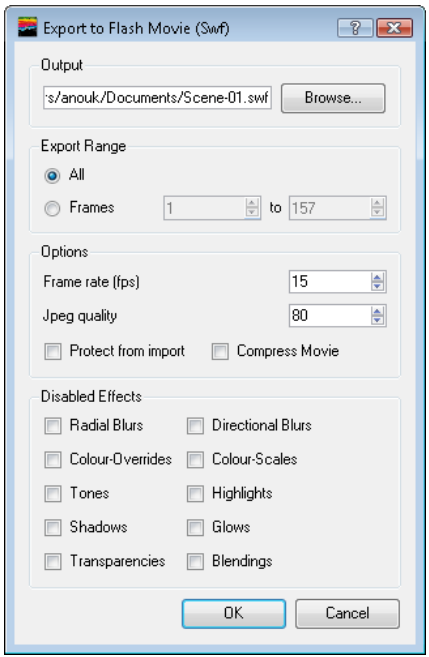


8. In the Playback toolbar, press the Play button to see your animation.
9. In the Playback toolbar, press the Loop button to play your animation repeatedly.



You can move between the Timeline frames using the [,] and [.] keys.

Exporting Your Project



Now that your animation is complete you can export it. Toon Boom Animate allows you to export to different formats. In this case, we will export the project as an SWF format.

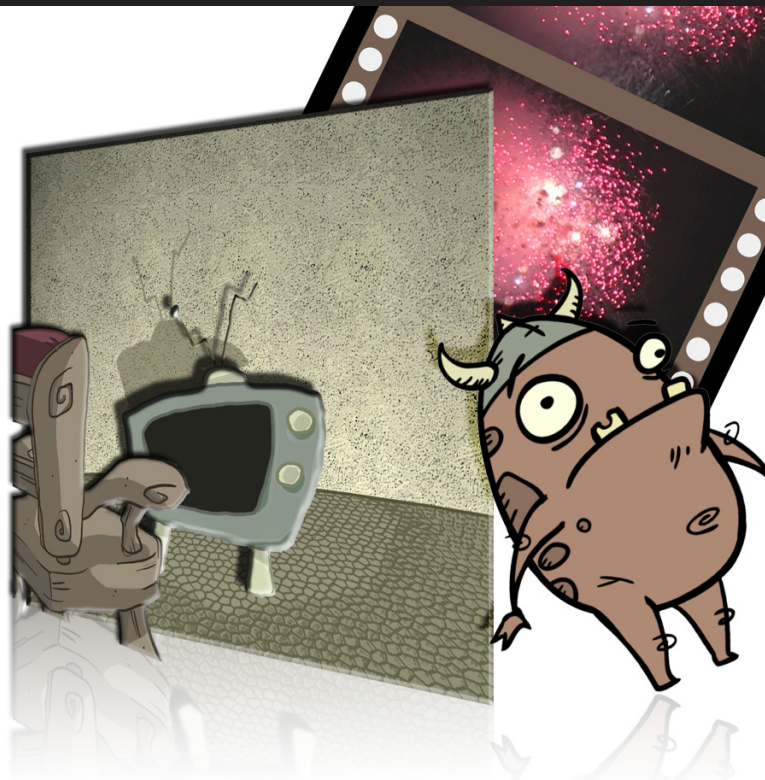
To export the project as a SWF file:

1. In the top menu, select **File > Export > SWF**.
2. In the Export dialog box, click on the Choose button to name and select where you will store your movie.
3. Click on the OK button to start the export process.

There you go! You have just completed your first project using Toon Boom Animate.

You can export your projects as image sequences, QuickTime movies, Flash movies (SWF) and Flash videos (FLV).

Chapter 3 Gathering Content



Toon Boom Animate allows you to draw directly in the software, and import external content.

You can import QuickTime videos, pictures, multi-layered PSD files, as well as AI, SWF and PDF files.

For this lesson, you can either use your own content or the files from the sample material package*.

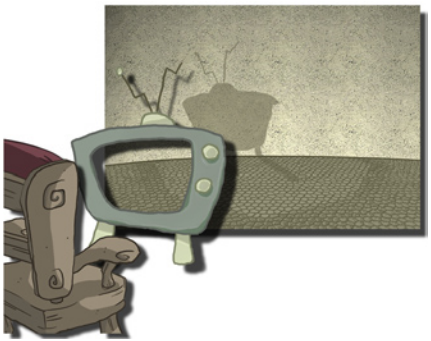
- Templates/limpa.tpl
- **Mac**: /Applications/Toon Boom Animate 2/ Templates/Samples/ background_tv.psd and fireworks.mov
- **Windows XP**: C:\Documents and Settings\All Users\Documents\Toon Boom Animation\ Toon Boom Animate 2\Templates\Samples\ background_tv.psd and fireworks.mov
- **Windows Vista and 7**: C:\Users\Public\ Documents\Toon Boom Animation\Toon Boom Animate 2\Templates\Samples\ background_tv.psd and fireworks.mov

The topics are:

- Setting Up the Living Room
- Importing a QuickTime Movie
- Get Limpa to Celebrate

* For Animate Pro, browse for Toon Boom Animate Pro 2 rather than Toon Boom Animate 2.

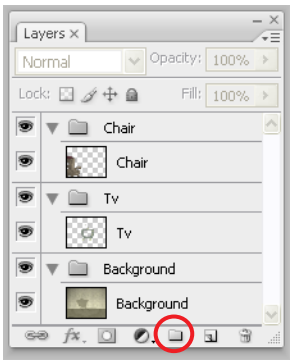
Setting Up the Living Room



For some of your projects, you will probably want to paint your backgrounds in a bitmap editing software such as Adobe® Photoshop® . With Animate, you can import multi- layered PSD backgrounds and keep the layers separated!

To start building the scene, we will import a living room background. This background has three layers; a wall, a television and a chair. We will import the file so that each one of these PSD layers will be inserted in a separate timeline layer.

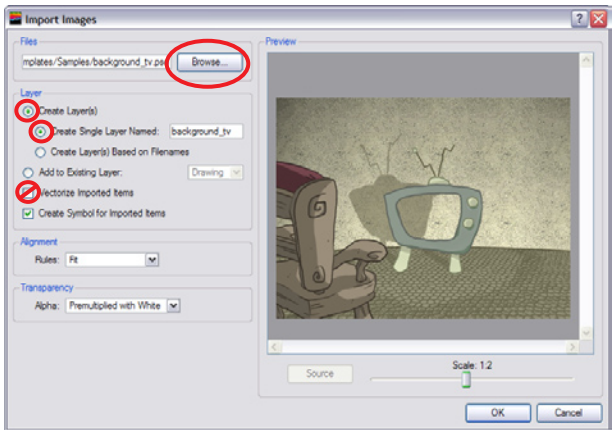
To do this, you must group your layers in Adobe® Photoshop® .



1. In Adobe® Photoshop® , group your layers. Each PSD layer you want on a separate timeline layer must be in a different group.
   - If you want some of your PSD layers to be integrated in the same timeline layer, insert them in the same group.

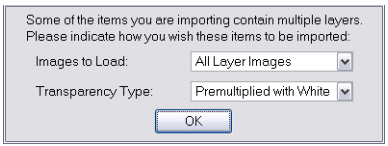
If you name your groups, their name will be preserved once your import the file in Animate.

To import a photo puppet in Adobe® Photoshop® put all the hands in one group, the heads in another one and so on, so that when you import it in Animate each body part has its own layer containing all of its own pieces.

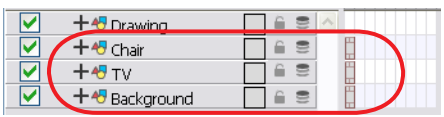


2. In Animate, select **Files > Import > Images**.
3. In the **Import Drawings** dialog box, browse for the PSD file to import.
4. In the Layer section, enable the Create Layer(s) and the Create Single Layer Named options.
5. Disable the Vectorize the Imported Items option.
6. Click on the OK button.

7. In the Image to Load field of the **Multilayer Image Import Settings** dialog box, select the All Layer Images option.

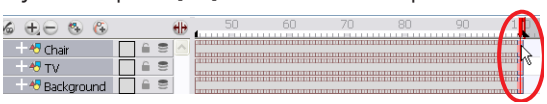


8. Select the Transparency Type if applicable.
9. Press the OK button.



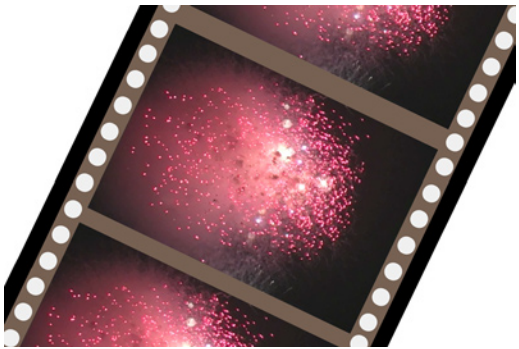
Your background appears in the Timeline view and the new layersare named as your PSD groups. The only thing left to do is to extend their exposure.

10. In the Timeline view, select the last cell of each layers and press [F5] to extend their exposure.



To vectorize the images you import, learn more about the Alignmentc and Transparency options, refer to the Animate User Guide to learn more.

Importing a QuickTime Movie



If you have a live-action clip you want to integrate into your project, you can do it with Animate! Using Animate you can import QuickTime movies. This way, you can integrate your videos with your animation and push the envelop even further!

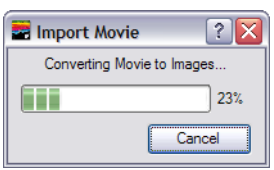
If your clip is not a QuickTime movie you need to convert it to **`*.mov`** format first. You can do this using an editing software.

In this example, we import a Happy New Year fireworks clip that we will position inside the television.

To import a QuickTime movie:

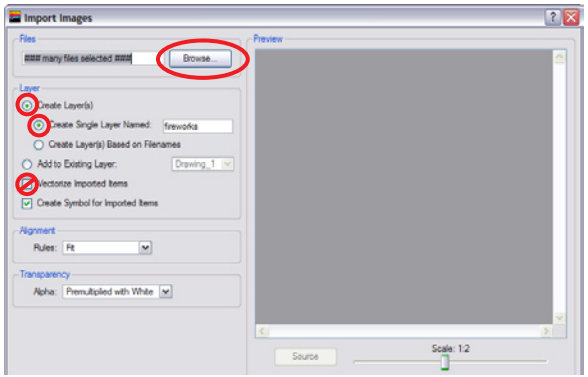
1. In the top menu, select **Files > Import > Movie**.
2. In the **Import QuickTime Movie** dialog box, browse for the movie to import.
3. Click on the Open button.

   Note: Your movie will be transformed into an image sequence and a sound layer will be added to contain the sound if there is any.



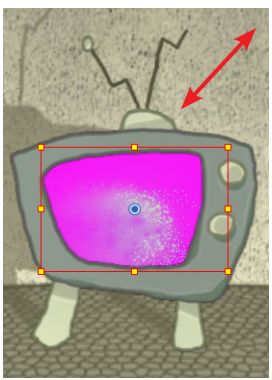
   Once the import process is completed, you will be asked where and how you want to insert your movie's images.

When you import a QuickTime movie in Animate it is converted to an image sequence. The sound is extracted from it and placed in a sound layer. This way, you can modify your clip's timing.



4. In the **Import Images** dialog box, enable the Create Layer(s) and the Create Single Layer Named options.
5. Name your new layer with a relevant name.
6. Disable the Vectorize the Imported Items option.
7. Enable the Create Symbol for Imported Items option if you want your movie to be a Symbol.
8. Click on the OK button to import your image sequence.

9. In the Timeline view, drag and drop the fireworks layer below the TV one.



10. In the Tools toolbar, select the Transform tool and disable the Animate mode.
11. In the Timeline view, select your QuickTime Movie layer.
12. In the Camera view, resize your clip to the tv screen size.
    - Hold the [Shift] key down to maintain aspect ratio of the movie.

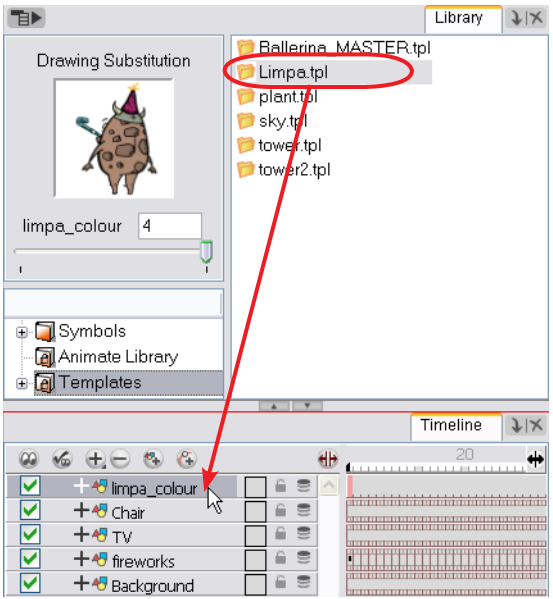
You can extend the scene length by selecting Scene > Scene Length or by dragging the Timeline view's red length bracket.

Get Limpa to Celebrate

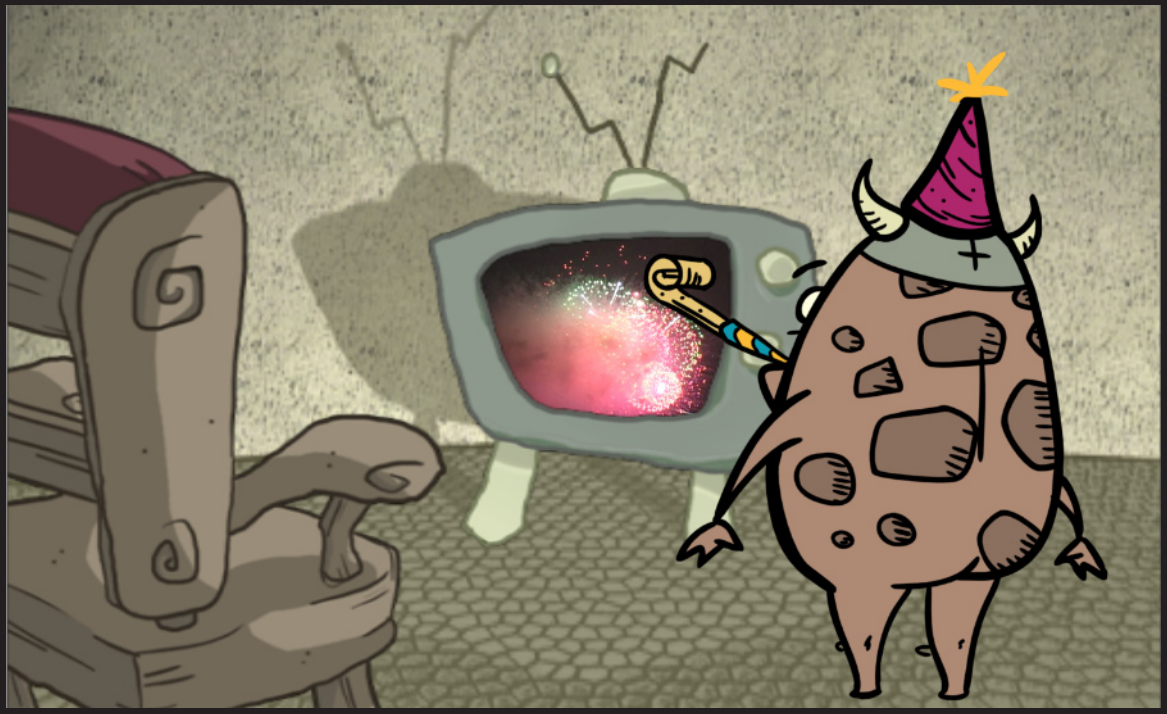
Now that the living room is ready for the celebration and the television is switched on, you can locate the Limpa character's template in the Library and import him in the scene!
Limpa was previously designed and stored in the sample library as a template.

A template is a small scene or container that you can import into any of your projects and its content will be copied in your scene.

1. In the Library, select the Templates folder and then select the Limpa.tpl template.
2. Drag the selected template to your Timeline view.
3. Use the Transform tool to position Limpa on the stage.
4. In the Playback toolbar, press the Play button to play back your animation.



Any drawing or animation your create in Animate can be stored as a template in the Library. Refer to the Animate User Guide to learn more about creating templates.



toonboom.com/storyboardpro/

The power of digital storyboarding

Toon Boom Storyboard Pro is a system for visual storytelling, perfectly suited to traditional and paperless methods. Truly completing the production pipeline, Storyboard Pro helps you take an idea and translate it into a visual story that will become a complete production, whether animated or live-action.

Work like you always have, but faster and smarter while maximizing the benefits of working digitally

Create instant animatics as you work, in the same time it takes to storyboard

Play back your storyboard in sync with audio

Enjoy interactive review and faster approval process

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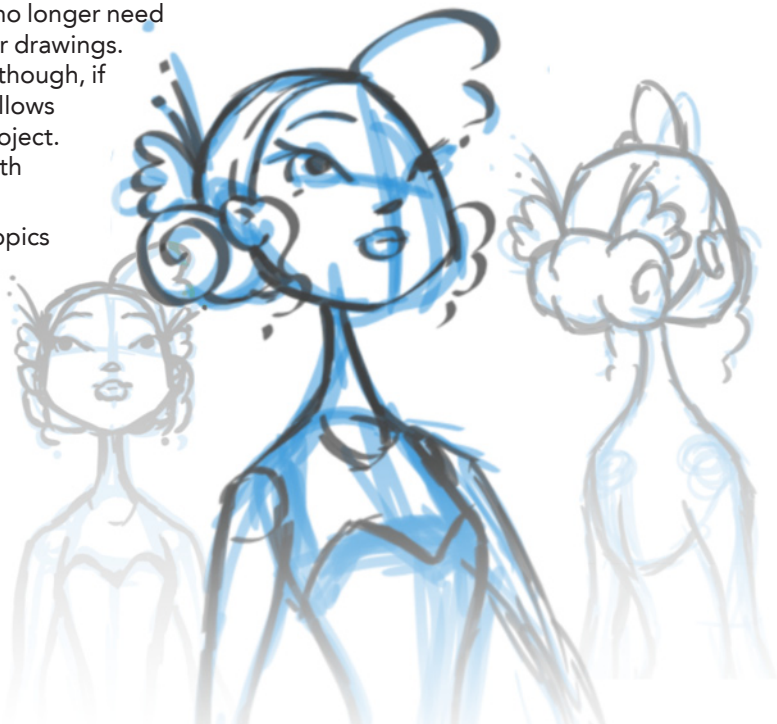
Chapter 4 Designing a Character

With Animate's advanced tools, you no longer need to draw on paper, scan and clean your drawings. You can do all that in the software. Although, if you love to draw on paper, Animate allows you to import your artwork in your project. Using Animate you get the best of both worlds.

This chapter contains the following topics where you will learn how to use the Brush tool, add new layers and clean up the drawings.

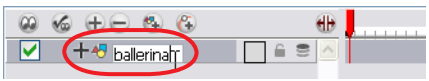
The topics are:

- Drawing Using the Brush Tool
- Other Useful Drawing Tools
- Adding a New Layer
- Tracing Over Your Character
- Adding Thick and Thin Lines



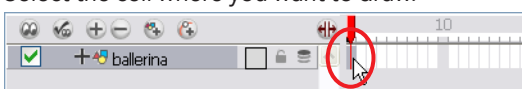
Drawing Using the Brush Tool

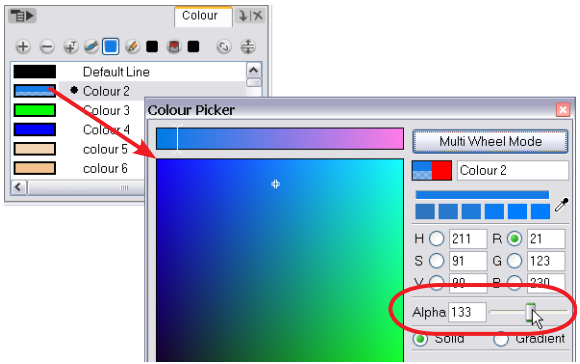
The Brush tool supports pressure sensitivity and several brush tips.



To keep your work organized, rename the default layer with your new character's name.

1. In the Timeline view, double-click on the layer name and type the new name in the field.
2. Press [Return] to validate the name.
3. Select the cell where you want to draw.



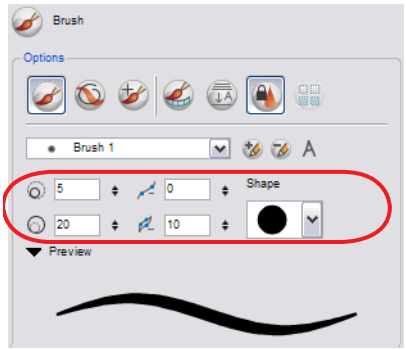


To get a feeling similar to drawing on paper with blue pencils, you can modify a colour swatch's colour and transparency.

4. Double-click on the colour swatch if you want to modify the tint.
5. To modify the colour's transparency, slide the Alpha cursor to the right or left.

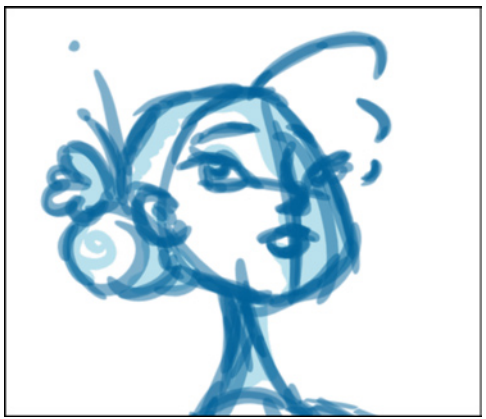
The Contour Optimization smooths the contour of your line once the line has been traced.

Rename a layer by clicking on its name in the Timeline view or in the Layer's editor.



There are several parameters which you can adjust in the Brush Properties:

- Minimum Size
- Maximum Size
- Smoothness
- Contour Optimization
- Brush Tips

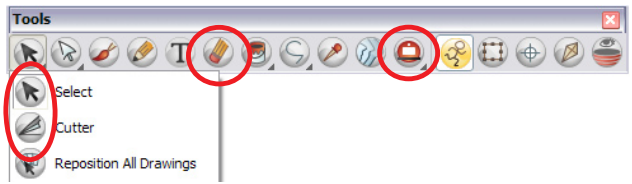


You are now ready to throw all kinds of ideas onto your canvas, which in this case is the Camera view.

6. In the Camera view, sketch your character.
7. If you want to draw some shading on your character, enable the Draw Behind option in the Brush Tool Properties.

The Smoothness option smooths the initial movement of your line. Increasing the value results in a line with less control points. The Contour Optimization smooths the contour of your line once the line has been traced.

Other Useful Drawing Tools



There are several other useful drawing tools you can use to perfect your work such as:

- Select Tool

  The Select tool allows to reposition, scale, skew, rotate and delete a selection.

- Cutter Tool

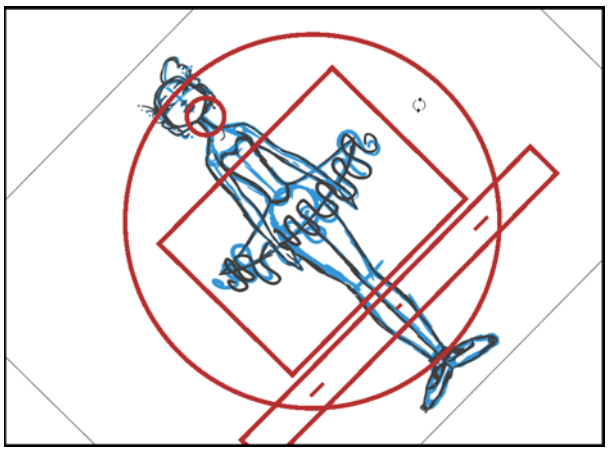
  The Cutter tool allows to select a portion of a drawing to reposition it or delete it.

- Eraser Tool

  The Eraser tool allows to erase any section of a line or drawing.

- Rotate View Tool

  The Rotate tool allows to turn the workspace the same as an animation table.

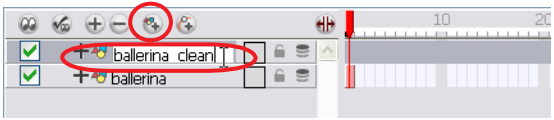


To use the Rotate View tool, hold down the [Ctrl]+[Alt] keys on Windows and [⌘]+[Alt] on Mac OS.

The default keyboard shortcut to reset the Camera view rotation is [Shift]+[X]. Or press the Reset View button in the Camera view's bottom toolbar.

Refer to the Animate User Guide to learn more about these drawing tools and their properties. Take a look at the other exciting and innovative tools available to help you produce some world class animation.

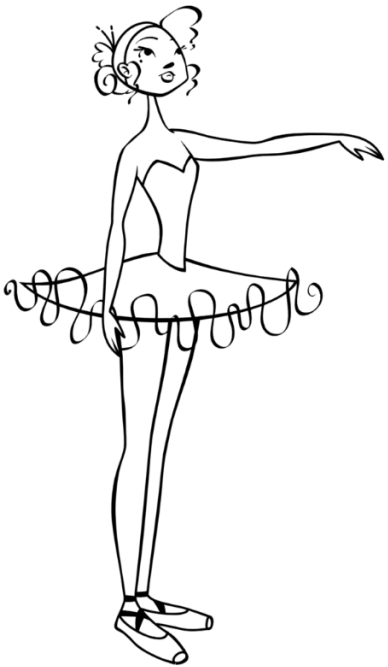
Adding a New Layer



Now that your sketch is completed, you will learn how to trace over it to get a clean drawing.

1. In the Timeline view, click on the Add Drawing Layer button to add a new layer for your clean drawing.
2. Rename the layer as **`clean`** or any other appropriate name.

It is now time to clean your character!



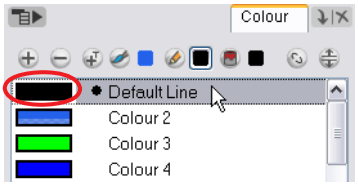
You can add an unlimited number of layers in the Timeline view.

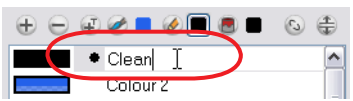
Tracing Over Your Character

There are many ways to clean up your character's sketch. Here we will demonstrate how to use the Pencil tool and the Polyline tool to do it, although you could also use the Brush tool for this task.

1. In the Timeline view, in your **clean** layer, select the cell just above your sketch drawing.

Drawing in the clean layer cell does not affect your sketch. To make sure that you don't modify your original drawing, you can lock it by clicking on the Lock button of this layer.

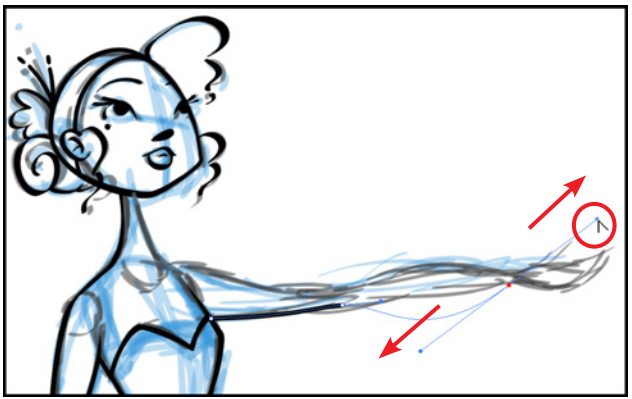




You may find it confusing if all of the Colour swatches are named sequentially, such as Colour 1, Colour 2, and so on. To avoid this confusion you can rename your swatches by double-clicking on their name and then pressing the [Return] key to validate the name.

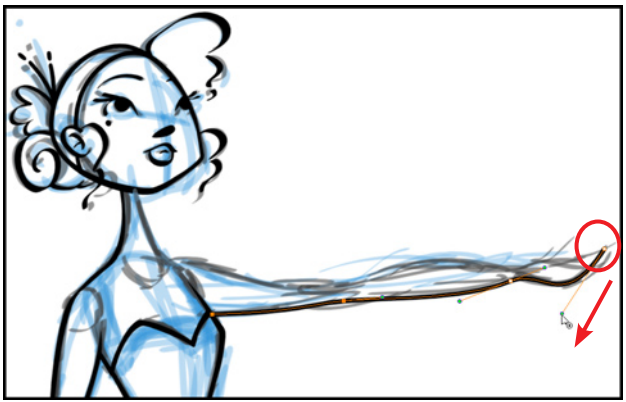
Pressing [Return], when you have a series of colour swatches, selects the next colour swatch.

To remove colour swatches from the Colour view, click on the Remove Colour button in the Colour view toolbar.



Using the Polyline tool to clean your drawing allows you to shape your lines easier than if you were tracing them by hand using the Brush tool or the Pencil tool.

2. Click to set a point along your drawing and then pull away from it while holding down the left mouse button. You will see the line shape as you move the handles.



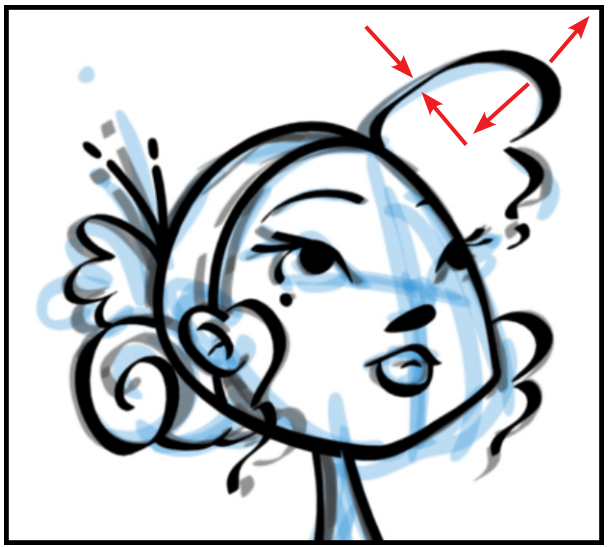
To fine-tune the lines you created with the Polyline tool, use the Contour Editor tool.

3. Click on the line to see the points appear.
4. Then, click on a point to select it and move its Bezier handles to reshape the line.

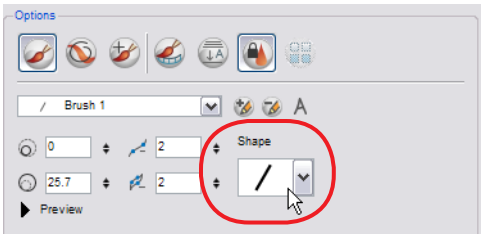
Use the Pencil tool to draw the lines you don't want to do with the Polyline tool.

To move only one of the two Bezier handles using the Polyline or Contour Editor tool, hold down the [Alt] key.

Adding Thick and Thin Lines



Since you drew your lines as a central vector type, using the Polyline tool and the Pencil tool, your drawing does not contain thick and thin lines. There are different techniques you can use to add these lines.

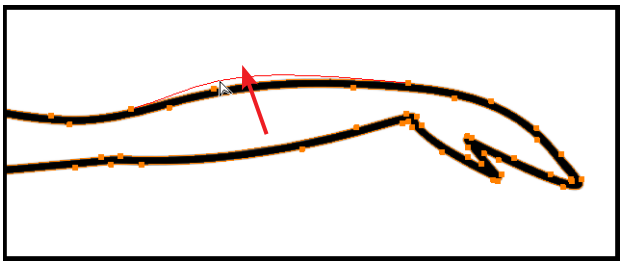


The first method is to use the Brush tool to draw some of the lines and change the tip to an oblique shape or use a pen tablet which provides you with pressure sensitivity and allows you to draw lines of variable thickness.

Drawing with the Brush tool does not allow you to reshape your lines as easily as with the Polyline or Pencil tool. The Brush tool creates contour vector lines (also known as fills) where the vector points are situated on the line's contour, Pencil lines are central vector lines in which the points follow the centre of the line.

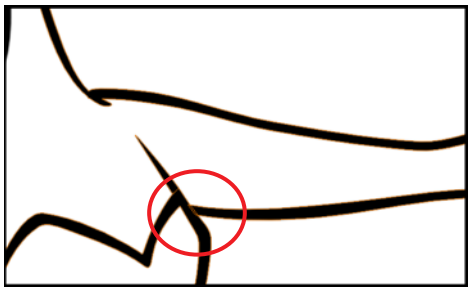
Central vector lines **do not** support thick and thin lines, but have the same thickness throughout. Contour lines **support** thick and thin lines, but take longer to reshape.

You can convert contour lines to central lines and central lines to contour lines. You can make an invisible line by setting the size of the Pencil tool, Ellipse tool, Rectangle tool, Line tool or Polyline tool to 0 (zero).



The second technique is to convert the central lines to contour lines and to add some thick and thin lines by using the Contour Editor tool.

1. In the Tools toolbar, select the Select tool.
2. In the Camera view, select the lines to convert to contour lines.
3. In the Tool Properties view, click on the Convert Pencil Lines to Brush Lines button.
4. In the Tools toolbar, select the Contour Editor tool.
5. In the Camera view, push the points and contours to add the desired thickness.



No matter which tools you use to draw with you must finally flatten the lines so that your character outline is a single shape instead of being built out of many strokes. This makes it easier and lighter to manipulate.

1. In the Tools toolbar, select the Select tool.
2. In the Camera view, select the lines to flatten.
3. In the Tool Properties view, click on the Flatten tool.

There you go! You now know how to design and clean a complete character in Toon Boom Animate.

If you plan to use this character as a cut-out puppet in a later step, you can decide not to flatten your lines for an easier breakdown process. Refer to the Creating a Cut-out Puppet chapter for more information.

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Chapter 5 Painting Your Character

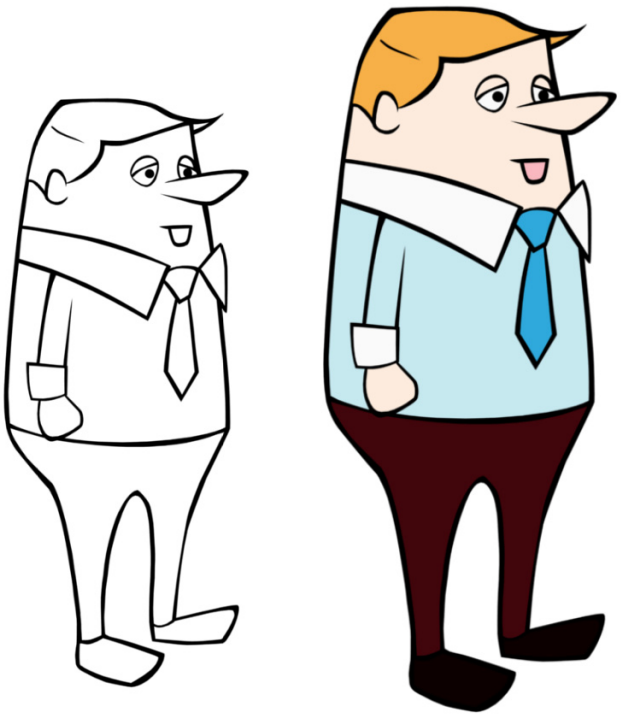
One of the greatest benefits of using Animate are its colour palettes. With Animate, you can create a group of colours specifically for your character which will stay with it throughout your project. You can change the colours at any time.

You can use the character you drew previously or a character model from the sample material package*:

- Templates/Joe_unpainted.tpl
- **Mac**: /Applications/Toon Boom Animate 2/ Templates/Samples/ Textures
- **Windows XP:** C:\Documents and Settings\All Users\Documents\Toon Boom Animation\Toon Boom Animate 2\Templates\Samples\Textures
- **Windows Vista and 7:** C:\Users\Public\ Documents\Toon Boom Animation\Toon Boom Animate 2\Templates\Samples\Textures

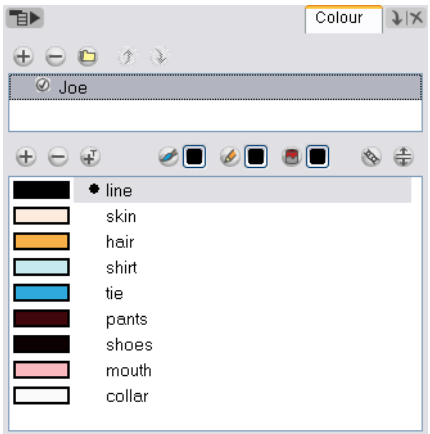
The topics are:

- Creating a Colour Palette
- Painting the Character
- Closing Gaps
- Creating Gradient Colours
- Painting With Bitmap Textures
- Editing Gradients and Textures
- Creating a Palette Style



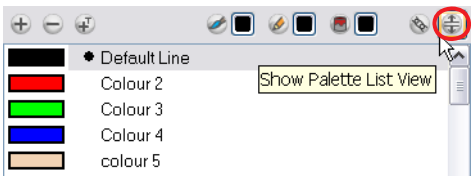
* For Animate Pro, browse for Toon Boom Animate Pro 2 rather than Toon Boom Animate 2.

Creating a Colour Palette



You don't need to use the default palette to paint all of your drawings and animations. You can create a small group of colours specifically for your character! This helps to keep your work organized by keeping your character's colours together. These groups of colours are known as colour palettes.

1. To access the Palette List, in the Colour view, click on the Show Palette List View button.



2. In the Colour toolbar, click on the New Palette button.

3. In the **Palette Browser** dialog box, name your palette with a relevant name.
4. Click on the OK button to validate the palette's creation.

Refer to the Creating Your Own Animation chapter to review the Colour view basics.

If you are not using the default palette, remove it from the Palette List.

Note: The default palette itself will not be deleted and it can always be brought back later.

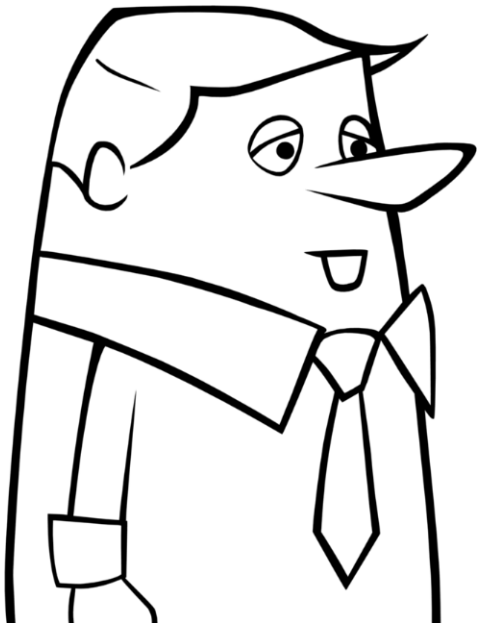
5. In the Colour view, select the default palette.
6. In the Colour view toolbar, click on the Remove Palette button.

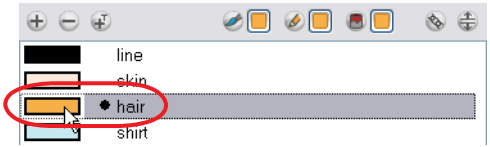
You are now ready to add colour swatches to your new palette.

7. In the Colour view, click on the Add Colour button to add new colour swatches.
8. Double-click on a colour swatch to open the Colour Picker window and modify the colour.
9. Click on the colour swatch's name to rename it.

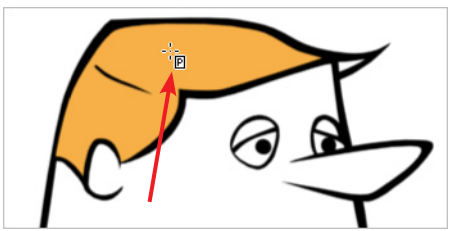
Remember that when you paint a zone with a specific colour swatch, the zone is linked to this colour swatch. When you modify the swatch, the zone will be updated along with it.

Painting the Character



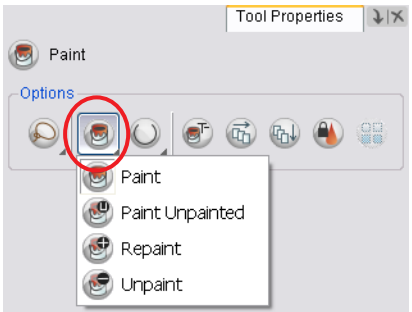


1. In the Tools toolbar, select the Paint tool.
2. In the Colour view, select the colour swatch corresponding to the zone your want to paint.



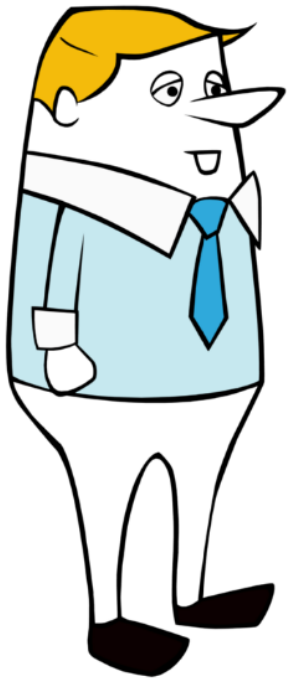
3. In the Camera view, paint the zone.
4. Repeat this process until the drawing is entirely painted.

With the Paint tool you can only paint closed zones. If a zone is open, you will need to close it either with the Brush tool or the Close Gap tool.



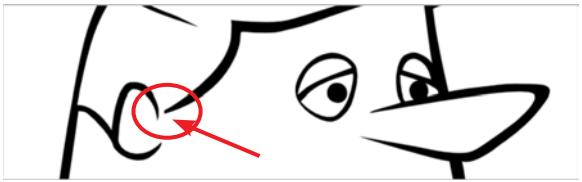
There are many Paint tool options available. You can set these options in the Tool Properties view:

- Paint
  Paints everything it touches
- Paint Unpainted
  Paints only unpainted zones
- Repaint
  Paints only already painted zones
- Unpaint
  Unpaints everything it touches



To quickly paint a series of drawings, it is advantageous to set the Paint tool's painting option to Paint Unpainted.

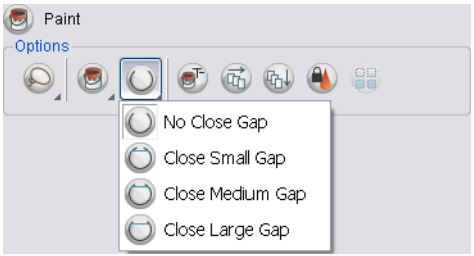
Closing Gaps



If your drawing has a gap in a line, the Paint tool cannot paint the unclosed zone. First you need to close it. You can do this using the automatic Close Gap mode or the Close Gap tool. You could also use the Brush, Contour Editor or Pencil tools.

To use the Close Gap tool:

1. In the Tools toolbar, select the Close Gap tool.
2. Press [D] to display the invisible strokes.
3. In the Camera view, trace a stroke near to the gap.



You can also use the automatic close gap available in the Paint's Tool Properties. You can choose the size of the gap that you want the system to automatically ignore while painting. Gap closing only occurs when you paint using the Paint tool.

To use the automatic Close Gap mode:

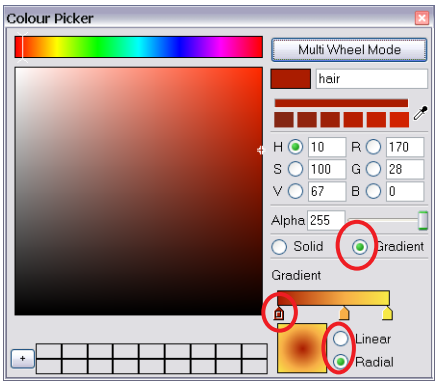
1. In the Tools toolbar, select the Paint tool.
2. In the Tool Properties view, select one of the gap closing options from the drop-down list.
3. In the Camera view, paint your drawing.

You can set the automated gap closing to Close Small Gap. Selecting Close Large Gap could result in not painting all of the small areas in your drawings.

Creating Gradient Colours

Animate adds life to your drawings by letting you paint with both gradient and solid colours.

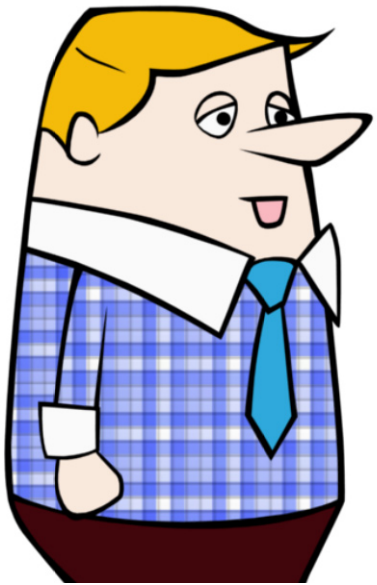
Creating a gradient colour is so easy to do. You can even modify one of your existing colour swatches. As a bonus you can see the result on your painted character as you adjust the gradient!



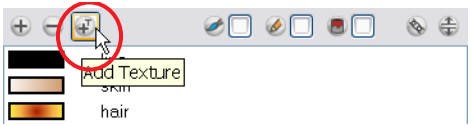
1. In the Colour view, double-click on the colour swatch to transform it into a gradient.
2. In the Colour Picker window, enable the Gradient option.
3. Choose a Linear or Radial gradient.
4. Click on the gradient arrows and adjust their position and colour.

Refer to the Animate User Guide to learn more about editing gradient swatches.

Painting With Bitmap Textures



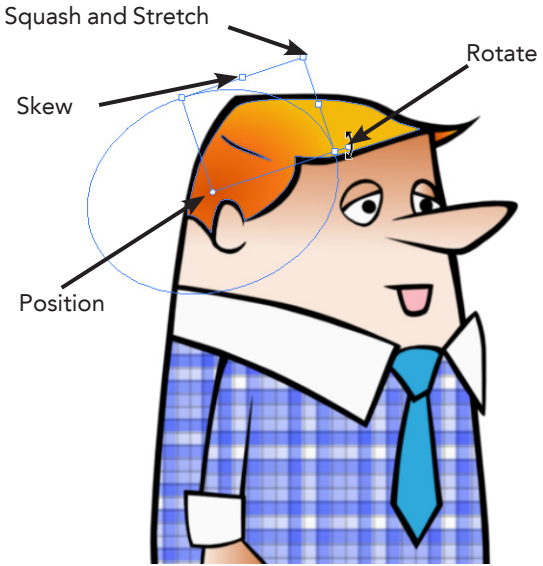
After painting with solid and gradient colours, you can also paint with bitmap textures.



1. In the Colour view, click on the Add Texture button.
2. Browse for a PSD or TGA picture.
3. In the Tools toolbar, select the Paint tool.
4. In the Colour view, click on the Paint Colour button.
5. In the Colour view, select your new texture swatch.
6. In the Camera view, paint the desired zone.

You can use any photo or textured image in your computer and paint your animation with it. It only needs to be in PSD or TGA format.

Editing Gradients and Textures



After you paint a zone with a gradient or texture colour, you can reposition and adjust it.

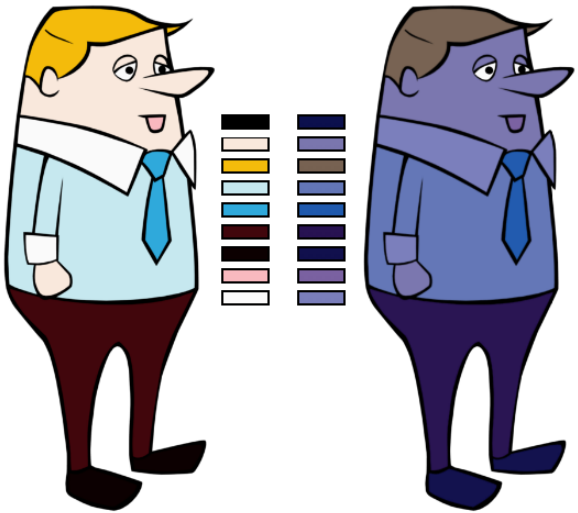
1. In the Tools toolbar, select the Edit Gradient/Texture tool.
2. In the Camera view, click on the gradient or texture zone to modify.
3. Using the tool's anchor points, modify the gradient or texture's size, angle and position.

If you like the gradient position you made with the Edit Gradient/Texture tool, you can store it so that next time you paint with a gradient or a texture it will be positioned the same.

1. In the Tools toolbar, select the Select tool and select the desired gradient zone.
2. In the Select tool's Tool Properties view, click on the Store Gradient Colour button.
3. To use the stored gradient, in the Brush or Paint Tool Properties view enable the Use Stored Gradient Colour option.

You can copy and paste a gradient/texture position using the Edit Gradient/Texture tool. This can be very handy when you have a hand-drawn animation painted with gradient colours.

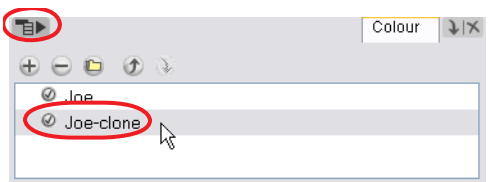
Creating a Palette Style



Day Palette Style Night Palette Style

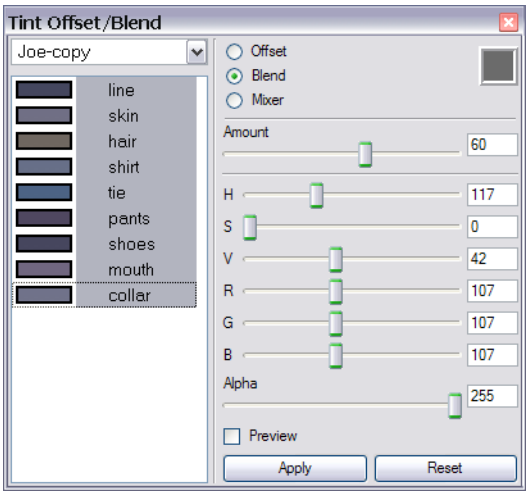
You can create palette styles for your character such as a Day palette or a Night palette.

A palette style is created by cloning your original palette. This links the colour swatches to the same zones as the original palette. This has the advantage of letting you change the colours in your cloned palette, and then by replacing the original palette with the clone the character's colours will update automatically without you having to repaint!



1. To access the Palette List, in the Colour view, click on the Show Palette List View button.
2. In the Colour view, click on the Menu button and select **Palettes > Clone**.
3. In the **Clone Palette** dialog box, name the palette appropriately. We recommend keeping the suffix **`-clone`** as part of the palette's name. For example, **`Joe-clone`**.
4. In the Colour View, select the new cloned palette.

You can use the Tint Panel to modify all of your palette's colours at once. You do not have to modify them individually.



To modify the cloned palette colours, edit them one at a time in the Colour Picker window or you can offset all of the colours at once using the Tint Panel window.

The Tint Panel window allows you to offset or blend a colour in all your selected swatches.

1. In the Colour view, click on the Menu button and select **Palettes > Tint Panel**.
2. In the Tint Panel window, select the palette to modify, in this case, your clone palette.
3. In the Colour list, select the swatches you want to modify.
4. Choose between Offset or Blend mode.
5. If you are using the Blend mode, increase the blending amount.
6. Modify the offset or blend tint.
7. Click on the Apply button to apply the changes to your palette or click on the Reset button to reset the changes.

If you want to use your painted character as a colour model, you can store it in your library as a template. Refer to the Animate User Guide to learn more about creating templates.

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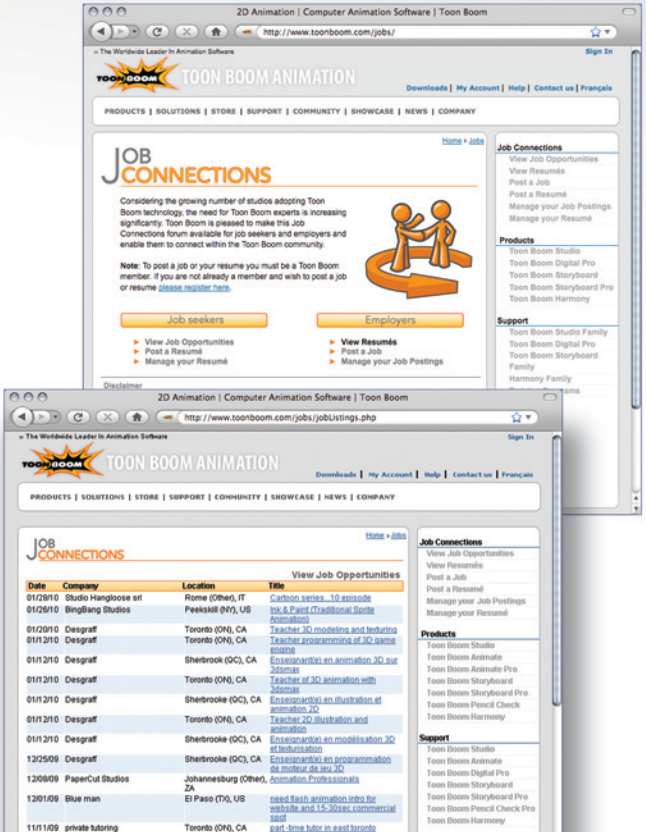
Would you share some connections?



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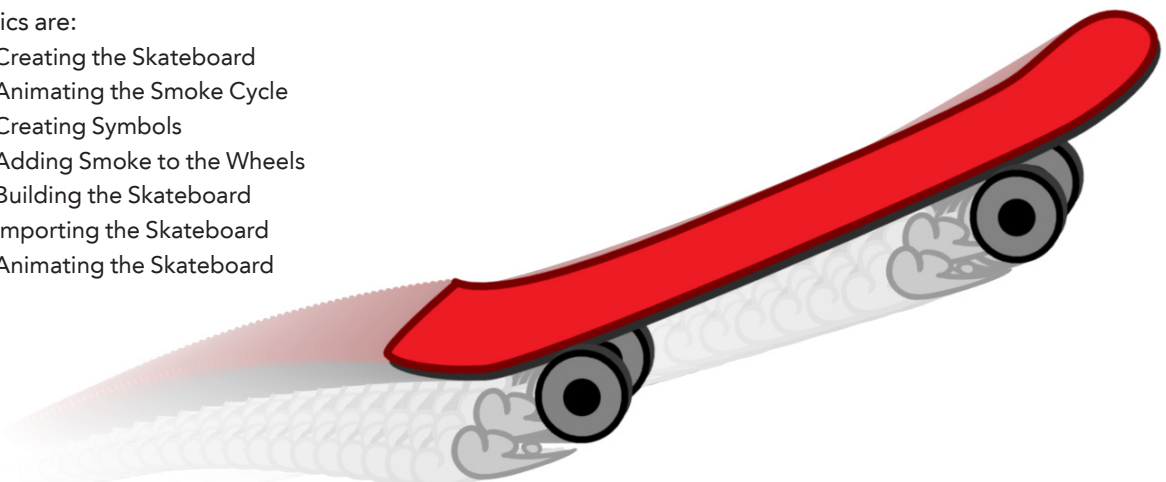
Chapter 6 Using Symbols to Animate a Skateboard

With Symbols, Toon Boom extends Animate's spectacular animation capabilities even further. For example, by using Symbols, you can build animated props and manipulate them as a unified object.

This chapter contains the following topics where you will learn how to create, combine, extend, edit, cycle and animate Symbols.

The topics are:

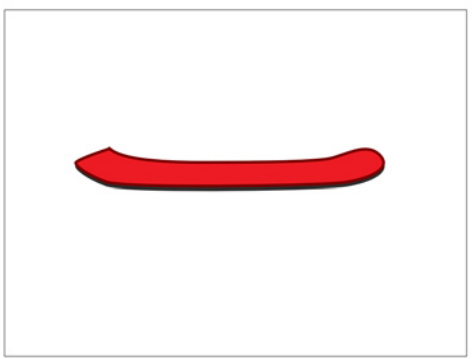
- Creating the Skateboard
- Animating the Smoke Cycle
- Creating Symbols
- Adding Smoke to the Wheels
- Building the Skateboard
- Importing the Skateboard
- Animating the Skateboard



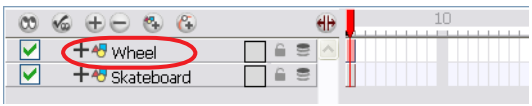
Creating the Skateboard

1. In the Timeline view, add a new layer and rename it as **Skateboard**.

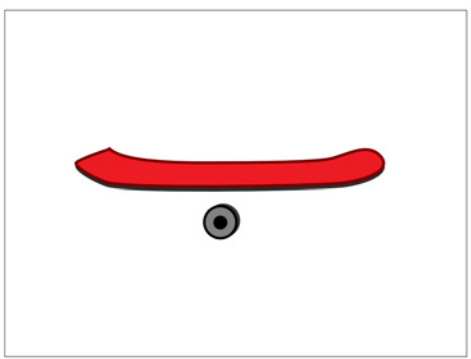
2. Using the tools you learned about in the previous lessons, draw the board without the wheels. The wheels will be drawn on a separate layer.



3. In the Timeline view, add a new layer and rename it as **Wheel**.



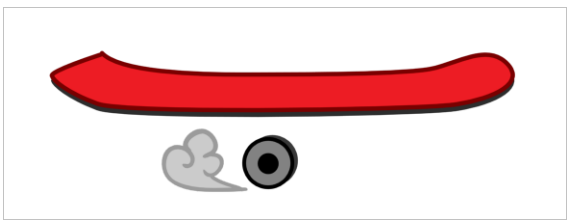
4. In the Camera view, draw a wheel to match the scale of your board. There is no need to draw it in any particular location as you will reposition it later.



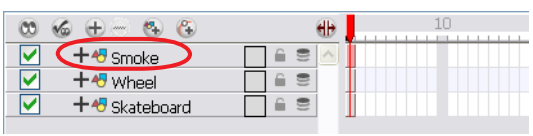
To add a new layer in your Timeline view, click on the Add Drawing Layer button in the Timeline layer toolbar.

Animating the Smoke Cycle

You will create a three drawing animation cycle. The animation cycle will be done later after you have imported the smoke symbol back into your scene. For now, just create the three main drawings.

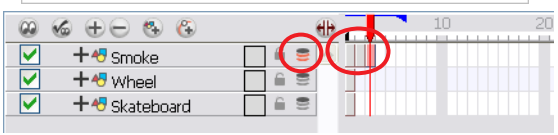


1. In the Timeline view, add a new layer and rename it **Smoke**.

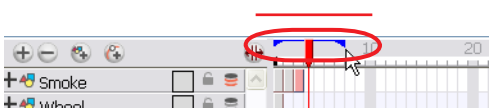


2. In the Camera view, draw the first smoke drawing.

3. Using the Onion Skin feature, draw the second and third drawings.

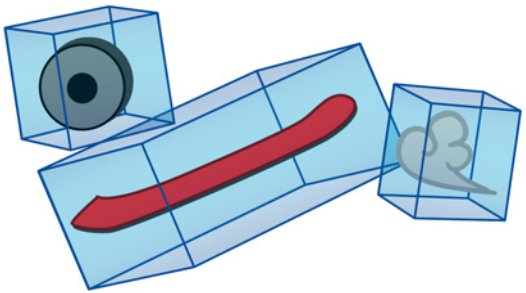


4. To change the number of drawings visible in the Onion Skin display, push or pull on the Onion Skin blue arrows.



Refer to the Animate User Guide to learn how to add effects on your animations. For example, you could add a transparency and a blur on your smoke animation.

Creating Symbols



Animate has a library where you can store your drawings and animation for reuse in your scene or sharing in your projects.

To reuse drawings or animation in another scene, you need to create a template out of them.

A good example of reuse is shown in the skateboard you are building, it has four wheels. However, you only need to draw one wheel and then reuse it three more times to create the three missing wheels. To do this, you must create a Symbol out of the wheel and then reimport it into your scene.

Creating a Symbol is easy. You only need to select the drawings or layers you want to transform and drag them to your Library view.

You can either select:

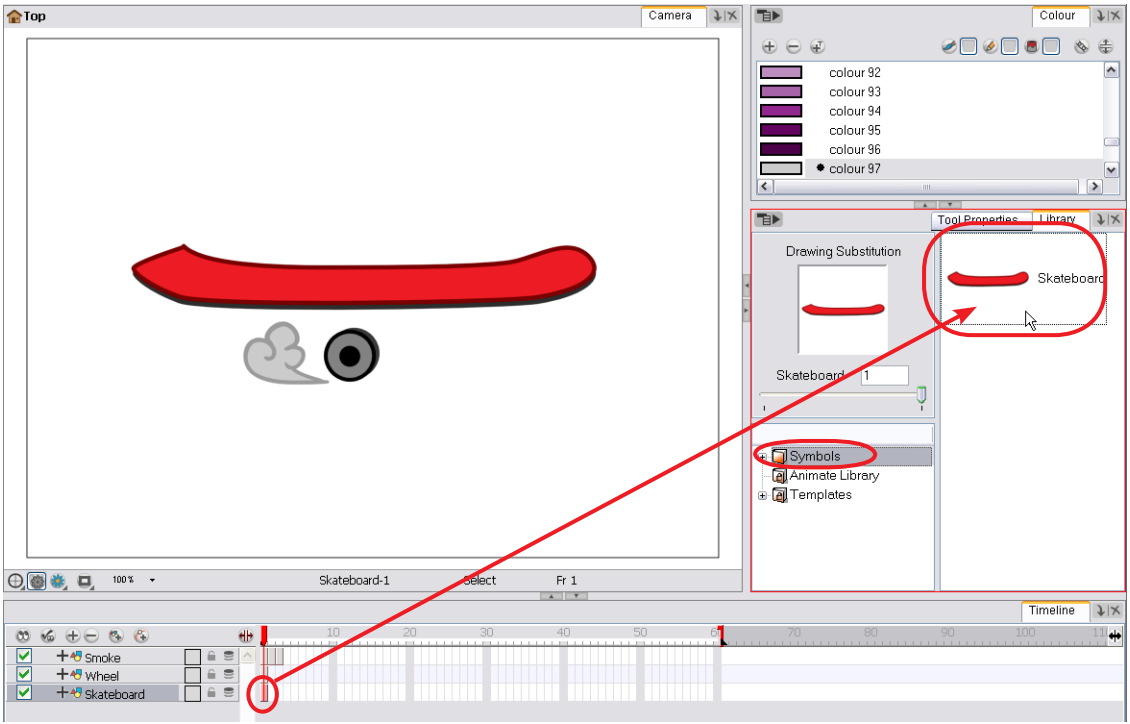
- A single drawing
- Several drawings in a row on a single layer
- Several drawings in a row on many layers
- A single layer
- Several layers

To build your skateboard:

1. In the Timeline view, select the skateboard drawing and drag it to the Library view inside the Symbols folder.
2. Select the wheel drawing and drag it to the Library view inside the Symbols folder.
3. Select the three smoke drawings and drag them to the Library view inside the Symbols folder. Or use the default keyboard shortcut [F8].

All your skateboard elements should now be in the Library as Symbols.

Refer to the Animate User Guide to learn more about creating Symbols and templates.

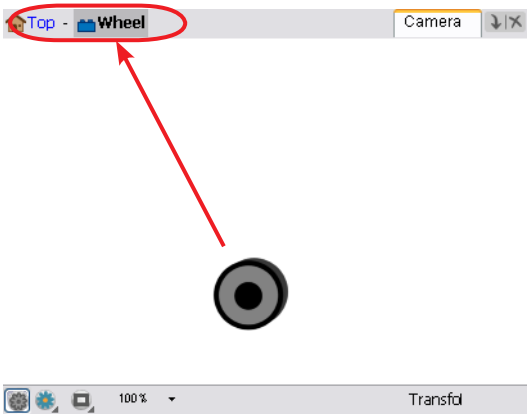


By right-clicking in Windows (or [Ctrl] + click in Mac OS) on the Symbols folder, you can add a new folder and rename it to organize your Symbols.

Adding Smoke to the Wheels

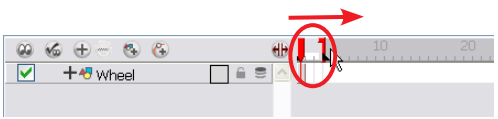
To add the smoke to each wheel and cycle it, you will enter the Wheel Symbol and add the smoke animation. This way all the wheels will receive the smoke cycle simultaneously.

1. In the Library, double-click on the Wheel Symbol. You should now be inside the Wheel Symbol where you can edit it.



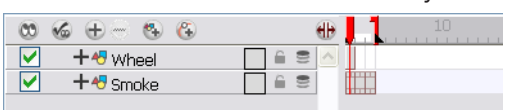
Before importing the Smoke Symbol, you will need to extend the symbol length.

2. In the Timeline view, pull on the scene length red bracket and extend it to frame 3.



You will now import the Smoke Symbol:

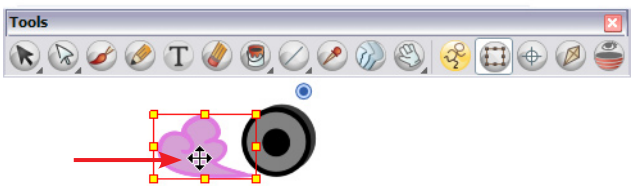
3. In the Library, select the Smoke Symbol.
4. Drag and drop the Smoke Symbol into the Timeline's left section to create a new layer.



You should now see the three smoke frames in your Timeline.

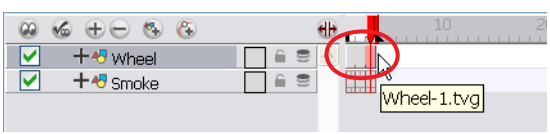
Extend or reduce a symbol's length by sliding the Timeline's red bracket to the left or right. Moving it towards the left reduces the symbol's length, while moving it towards the right extends the symbol's length.

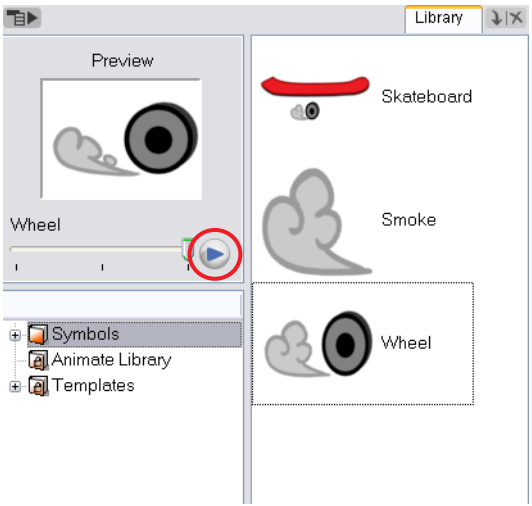
5. In the Tools toolbar, disable the Animate mode and select the Transform tool.
6. In the Camera view, position the Smoke layer. If the smoke needs to be resized, use the Transform tool's corner anchor points to resize it. The whole animation will be scaled together.



As you can see, the wheel's exposure is only one frame long. You must extend it to three frames.

7. In the Timeline, select the wheel's last cell and press the [F5] key to extend the wheel's exposure.





Your Wheel Symbol now contains your Smoke Symbol.

In the Library, click on the Wheel Symbol to preview it and press the Play button to view the animation.

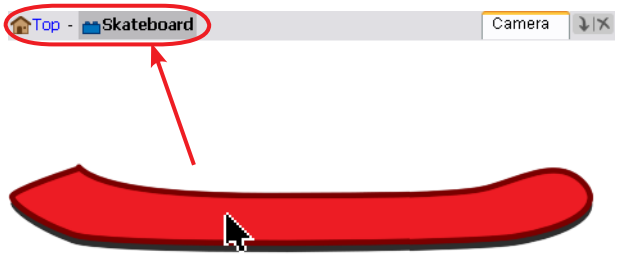
You must save your project in order to save the Symbols stored in your Library.

Building the Skateboard

Now you need to add the completed wheels inside the Skateboard Symbol. This will enable you to manage your skateboard as a single object instead of many.

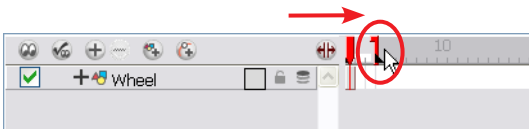
1. In the Library, double-click on the skateboard Symbol.

You will see the name of the Symbol at the top of the Camera view. You should now be inside the Skateboard Symbol.



Before importing the Wheel Symbols, you will need to extend the Skateboard Symbol's length.

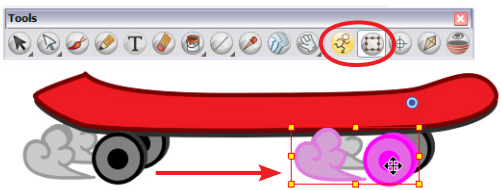
2. In the Timeline view, pull on the scene length red bracket and extend it to frame 3.



3. From the library, import four Wheel Symbols. Place two of the wheel layers above and two more below the Skateboard layer. Remember to rename your layers correctly.

You can enter a selected symbol by using the default keyboard shortcut [Ctrl]+[E] on Windows or [⌘]+[E] on Mac OS.

4. In the Tools toolbar, disable the Animate mode and select the Transform tool.

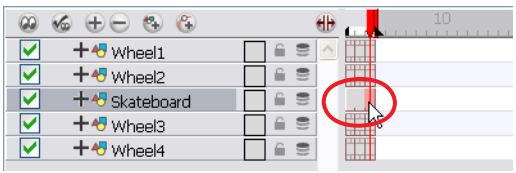


5. In the Camera view, position the wheels. If the wheel is the wrong size, use the Transform tool's corner anchor points to scale it.

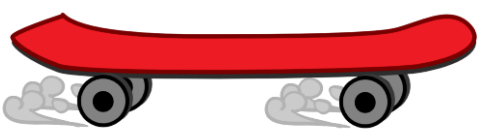
To modify the Wheel Symbol, double-click on a wheel. Once inside the Wheel Symbol, modify whatever you want to and the four wheels on your skateboard will be automatically updated to include the modification.

The skateboard's exposure is only one frame long. Change it to three frames long to match the wheel's exposure.

6. In the Timeline view, select the board's third cell and press the [F5] key to extend the skateboard's exposure.



You now have a complete skateboard which you can manage as a single object. Get ready to add it to your scene and do some tricks!



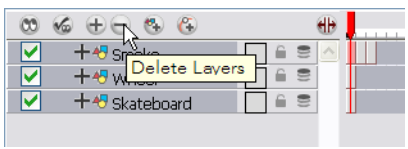
When editing a symbol, go back to the scene's root, click on the word "Top" at the top of your Camera view.

Importing the Skateboard

Your completed Skateboard Symbol is ready to animate, but first, you must clear the content of the Timeline.

To clear the Timeline:

1. In the Camera view top area, click on the Top button to go back to the scene's root.
2. In the Timeline view, select all of your layers.
3. In the Timeline view toolbar, click on the Delete Layers button.



4. In the **Confirm Delete** dialog box, click on the OK button.

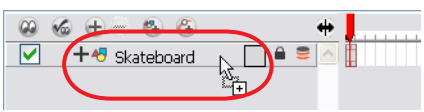
You are now ready to import your skateboard from the library, but before dropping it into your Timeline, you will perform an extra operation called: Paste Special. The Paste Special command allows to expose the symbol's full length and then create a cycle from it in a several different ways.

Before importing the Skateboard Symbol, you will need to extend the scene length.

To import the Skateboard Symbol:

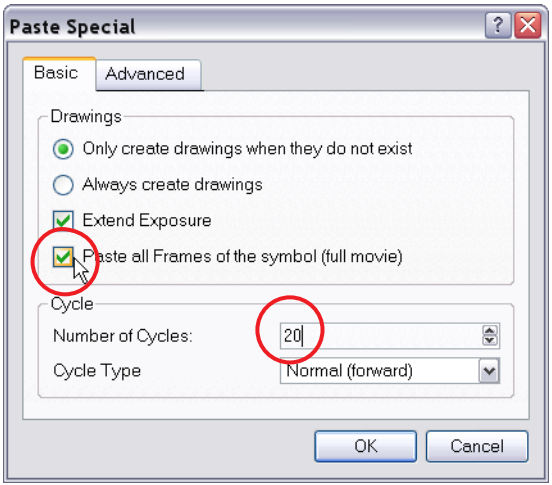
1. In the Timeline view, pull on the scene length red bracket and extend it to frame 60.

2. In the Library, select the Skateboard Symbol.
3. Start dragging the Skateboard Symbol toward your Timeline view.



4. Press and Hold down the [Alt] (Windows) or [Ctrl] (Mac) key before releasing the Symbol.
5. Drop the symbol in your Timeline's left side while holding down the [Alt] (Windows) or [Ctrl] (Mac) key.

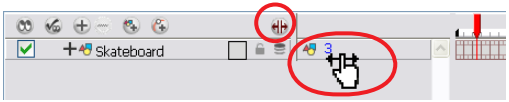
Once you store a drawing or a layer as a Symbol in your Library, you can delete it from your Timeline. Your work will still be available as a Symbol in the Library view.



6. In the **Paste Special** dialog box, enable the **Paste All Frames of the Symbol (full movie)**.
7. Set the Number of Cycles field to 20.
8. Click on the OK button.

If you forgot to use the Paste Special command when you imported, do the following:

1. In the Timeline view, select the symbol's frame.
2. In the top menu, select **Edit > Copy**.
3. In the Timeline, right-click in Windows or [Ctrl] + click in Mac OS and select **Paste Special**.



The default keyboard shortcut for the Paste Special command is [Ctrl]+[Shift]+[B] (Windows) or [Shift]+[⌘]+[B] (Mac OS X).

Animating the Skateboard

To complete your project, animate the Skateboard Symbol's position.

1. In the Tools toolbar, enable the Animate mode and select the Transform tool.
2. In the Timeline view, go to the first frame.
3. In the Camera view, select the Skateboard and position it to the left side of the screen.
4. In the Timeline view, go to the last frame.
5. In the Camera view, select the Skateboard and position it to the right side of the screen.
6. In the Playback toolbar, click on the Play button to view your completed animation!

To learn more about animating with Symbols, read the Animating a Cut-out Puppet chapter in the Animate User Guide.

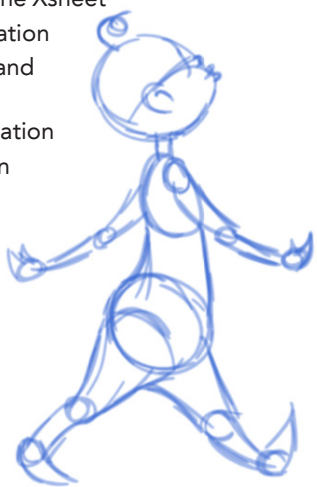
Chapter 7 Creating a Simple Hand-Drawn Animation

In Toon Boom Animate, you can take advantage of useful tools and features to animate paperlessly. Animate lets you create traditional looking animation without paper, pencils or scans.

This chapter will focus on the Xsheet view and its functionality, but everything can be also achieved in the Timeline view if you prefer.

The topics are:

- Sketching your Rough Keyposes
- Marking Keyposes in the Xsheet
- Completing the Animation
- Setting the Exposure and Testing the Animation
- Cleaning Up the Animation
- Painting the Animation

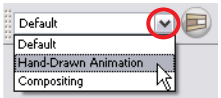


Sketching your Rough Keyposes

The first step in hand-drawn animation is to draw a rough sketch. This step lets you create and test your animation. You can concentrate on the flow of movement without being concerned about the character's details. You can focus on the details during the clean up process later on.

To easily draw your animation, first switch to the Hand-Drawn Animation workspace.

1. In the Workspace toolbar, select the Hand-Drawn Animation workspace from the drop-down menu.



To ensure that your scene is kept well organized, enable the Use Current Frame As Drawing Name option. This uses the current frame number to name each new drawing.

2. Press [Ctrl]+[U] (Windows) or [⌘]+[,] (Mac OS X) to open the Preferences panel.
3. In the Exposure Sheet tab, enable the Use Current Frame as Drawing Name option.

Refer to the Discovering the Interface Chapter in the Animate User Guide to learn more about Preferences.

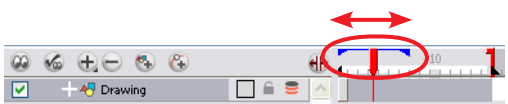
4. In the Tools toolbar, select the Brush tool.
5. In the Colour view, select a colour swatch. This is the colour you are going to use for your sketch. Sketching with a light colour helps during cleanup.
6. In the Xsheet view, select the first cell in the Drawing column.

7. In the Camera view, sketch your first keypose.

The first keypose in the walk cycle animation is the character with legs and arms spread apart.

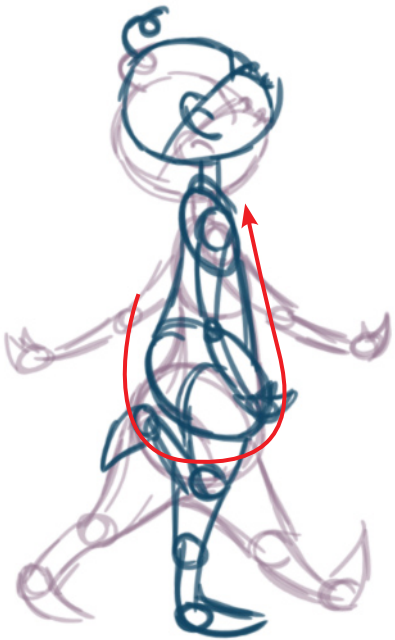
To sketch the second keypose of your animation, you will use the Onion Skin feature. The Onion Skin lets you see the previous and next drawings in washed-out colours. This mimics the effect of working with a stack of paper on an animation disc and light table.

8. In the Tools toolbar, enable the Onion Skin feature.
9. In the Xsheet view, select cell number 4, this will be the location of the second keypose.
10. In the Timeline view, click and drag the blue arrows to decide the number of previous and next drawings that will appear in the Camera view.

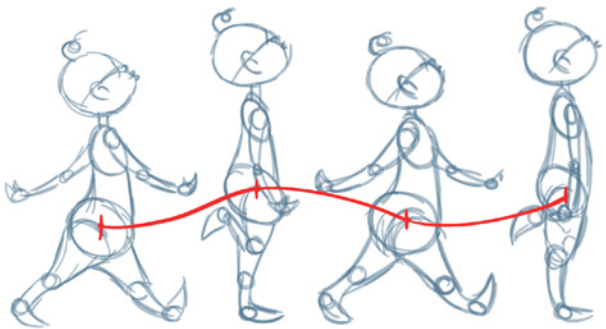


11. In the Camera view, sketch the second keypose.

You can customize the Onion Skin display options such as the render style and washed out values in the Preferences panel under the Drawing tab: Edit > Preferences (Windows) or Animate > Preferences (Mac).



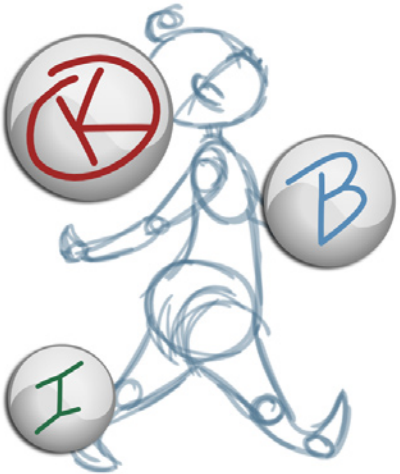
The second keypose is the highest point of the walk cycle. The leg that was pointing forward on the first one should now be straight beneath the character.



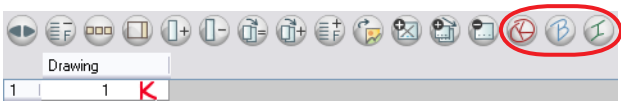
Keypose 1	Keypose 2	Keypose 3	Keypose 4
Cell 1	Cell 4	Cell 7	Cell 10

Using this picture as a guide, complete the four keyposes of the simple walk cycle animation.

Marking Keyposes in the Xsheet



Once you have sketched your keyposes, you should mark them in the Xsheet view so you can keep your animation organized. Doing this helps you to rapidly determine which poses are keyframes, breakdowns or in-betweens.



1. In the Xsheet view, select the cell containing the first keypose.
2. In the Xsheet Tools toolbar, click on the **Mark as Key Drawing** button. A Key K marker will appear in the cell.
3. Repeat these steps for each keypose.

You can do the same for breakdown drawings using the Mark as Breakdown Drawing button. This places a Breakdown B marker in the selected cell.

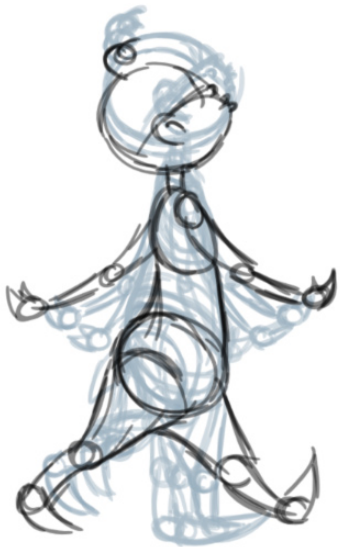
The Mark As In-between Drawing option will not add a marker in the Xsheet view.

Another great way to keep organized is by renaming your Xsheet columns.

1. In the Xsheet view, double-click on the Drawing column's header.
2. In the Layer Properties dialog box, enter a relevant name for the column in the name field.

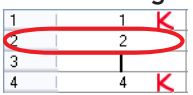
The Mark as In-between Drawing option will not add a marker in your Xsheet view. It is used to switch from a key or breakdown to an in-between drawing by removing the current marker.

Completing the Animation



It is now time to complete the rough animation. Do this by adding two in-between drawings between each keyframe.

1. In the Xsheet view, right-click (Windows) or [Ctrl] + click (Mac) on any cell between two keyposes, and select **Drawing > Create Empty Drawing**.



   This will add a new empty drawing in your layer ready for your next pose to be drawn in.

2. Add new drawings and sketch your poses with the help of the Onion Skin feature. Continue until you complete the walk cycle animation.

The completed animation should be composed of a total of twelve different drawings.

Your Xsheet should look like this.

	Drawing	
1	1	K
2	2	
3	3	B
4	4	K
5	5	
6	6	B
7	7	K
8	8	
9	9	B
10	10	K
11	11	
12	12	B

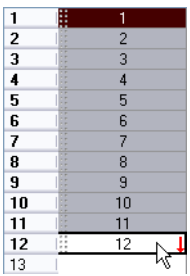
You can use the default shortcuts [F] and [G] to quickly flip through the different poses to get a feel of the motion as you sketch your animation.

Setting the Exposure and Testing the Animation

Testing your animation is a crucial step. You will finally see the motion in the Camera view and decide if it is good or not.

Before testing the animation, set the exposure and reduce the scene length. The correct timing for this simple walk cycle example is a double exposure.

1. In the Top menu, select **Scene > Scene Length**.
2. In the **Set Scene Length** dialog box, extend the scene to 24 frames.
3. In the Xsheet view, select your twelve drawings, right-click and select **Exposure > Set Exposure to > Set Exposure to 2**.
4. Use the [F] and [G] keyboard shortcuts to flip through your drawings.



1. In the Playback toolbar, click on the Loop button to enable the looping feature.
2. To start the playback, click on the Play button in the Playback toolbar.

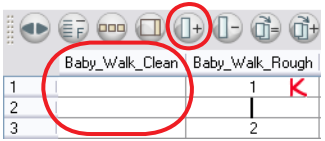
Refer to the Animate User Guide to learn more about the Playback toolbar features.

Cleaning Up the Animation

When you are satisfied with your animation, you can begin the clean up process.

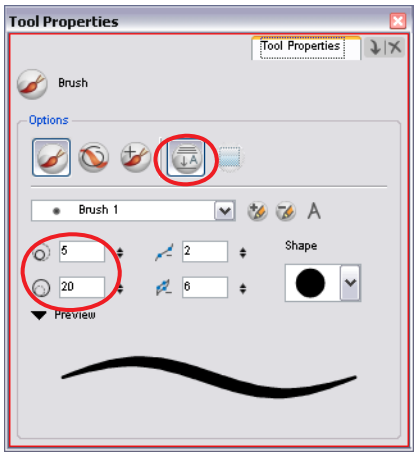
In the rough sketch layer, start by cleaning up the key poses first and then do the in-between drawings.

Remember, you can use the Onion Skin feature to verify the accuracy of the line between the different poses.



1. In the Xsheet view, click on the **Add Column** button.
2. In the Add Columns dialog box, name your column **`Baby_Walk_Clean`** .
3. In the Tools toolbars, click on the **Brush** button.

If you are animating in the Drawing view you will need to enable the Light Table feature to see your other layers. Simply press [Shift]+[L], the default keyboard shortcut.



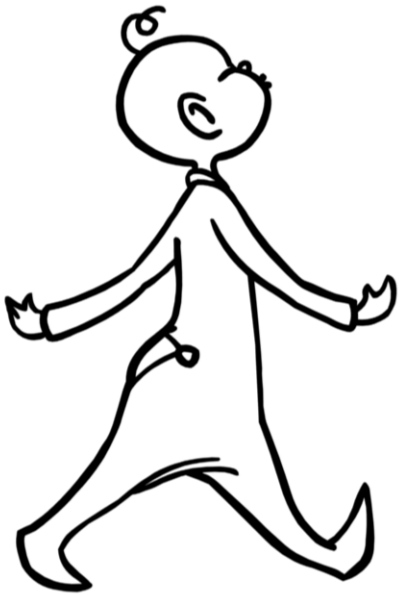
4. In the Tools Properties view, click on the Auto Flatten button and modify the minimum and maximum brush sizes.

The Auto Flatten option flattens your brush lines as you draw them. It also simplifies the process of perfecting your lines with the Contour Editor tool.

5. In the Colour view, click on the desired colour swatch. Choose a darker colour that will contrast with your rough sketch.
6. In the Camera view, carefully trace the poses.

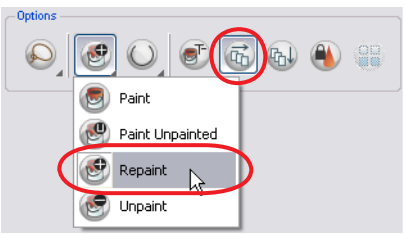
Refer to the Character Design chapter to learn more on how to perfect your brush line using the Contour Editor as well as other useful tips on cleaning up your drawings.

Painting the Animation



It is time to create a palette for your character and repaint the outlines using the colours contained in this palette.

1. In the top part of the Colour view, click on the New Palette button.
2. Name your palette in the Palette Browser window.
3. Rename the default colour swatch and call it **`Line`**.
4. In the Tools toolbar, select the Paint tool.
5. In the Tools Properties view, select the Repaint mode and click on the Apply to Multiple Drawings button.



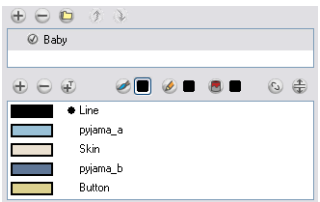
The Repaint mode will make sure that only the lines will be repainted, all the empty zones will remain.
The Apply to Multiple Drawings option lets you repaint the lines on all your drawings at once.

Refer to the Painting your Character chapter to learn more about colour palettes features and helpful painting tips.

Use the Onion Skin feature to check that no part of the animation is left outside the selection.

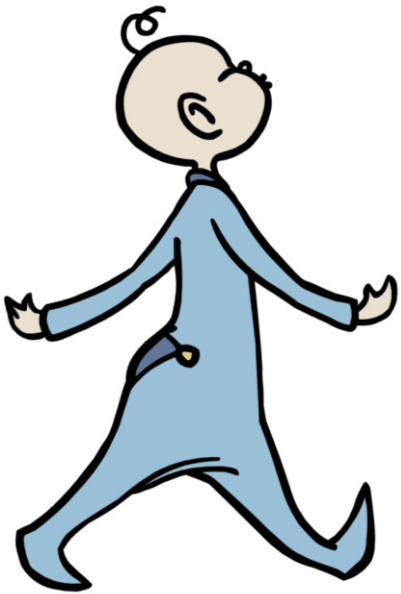
6. In the Camera view, make a selection around your animation.

Now you can add and customize the different colours that will be painted in your animation. Be creative! You can work with one colour at a time or create them all at once. Remember, you can modify them anytime you want without repainting your drawings.



1. In the bottom part of the Colour view, click on the Add Colour button.
2. In the Colour view, double-click on the new colour swatch.
3. In the Colour Picker dialog box, pick the desired colour and rename your colour swatch.
4. Repeat these steps for each colour. In this exercise, you will need a total of five colours, including the line.

Refer to the Painting your Character chapter to learn more about the Colour Picker dialog box and Palettes.



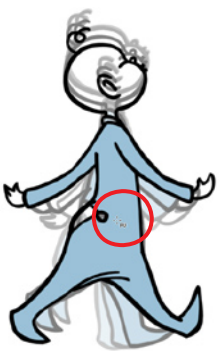
As soon as your palette is completed you can start to fill the zones.

1. In the Tool Properties view, select the Paint Unpainted mode and click on the Apply to Multiple Drawings button.

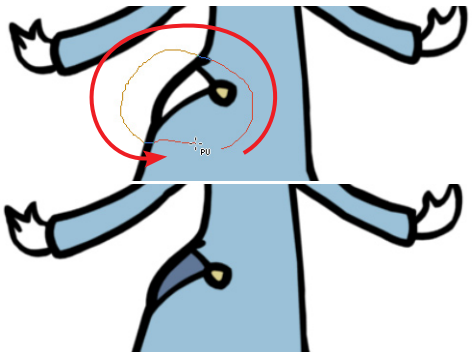
The Paint Unpainted mode will only allow the empty zone to be painted, preventing lines from being accidentally repainted.

The Apply to Multiple Drawings feature is useful when you want to paint the central body zone on all of your drawings at once. It can also be used on the head zone.

2. In the Tools toolbar, enable the Onion Skin feature.
3. In the Colour view, select the colour of the pyjamas.
4. Click inside the central zone you want to paint.
5. Enable the Apply to Multiple Drawings feature again and repeat these steps for the head.



To paint the final details, disable the Onion Skin feature so you can see one drawing at a time. Use the Paint tool in Paint Unpainted mode to speed up the painting process.



1. In the Colour view, click on the colour swatch.
2. In the Camera view, click on the zone corresponding to the selected colour.
3. Flip through the drawings by pressing [F] and [G], the default keyboard shortcuts.
4. Repeat these steps for each colour until every zone is painted!

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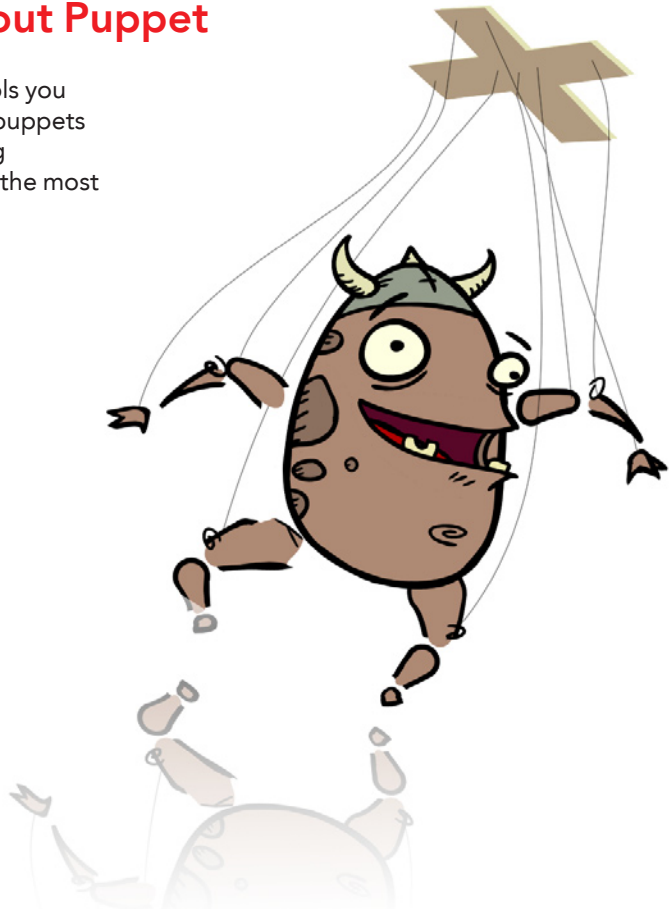
TOONBOOM

Chapter 8 Building a Cut-out Puppet

In Toon Boom Animate you will find all the tools you ever wished for to build and animate cut-out puppets with. A wide variety of breakdown and rigging techniques are available since Animate mixes the most common and popular concepts.



The topics are:

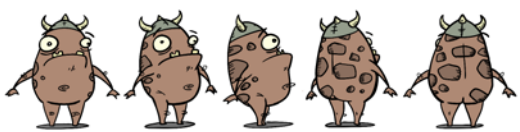
- Getting Ready for the Breakdown
- Breaking Down the Main Parts
- Fixing Articulations and Gaps
- Breaking Down the Other Views
- Ordering the Puppet's Layers
- Setting the Pivots
- Creating Hierarchies
- Ordering Layer Hierarchy
- Adding a Master Peg
- Storing the Puppet in the Library

Getting Ready for the Breakdown

To build your puppet, you will first need the character's picture. It's even better if your have a complete turnaround.

You can use the sample template provided in your library:

- Templates > limpa_colour.tpl



Breaking down a puppet, consists of cutting the body into parts and placing them on different layers so that the character becomes articulated.

This tutorial shows you how to build a basic puppet. To get more information on how to build a cut-out puppet for a production, refer to the Animate User Guide.

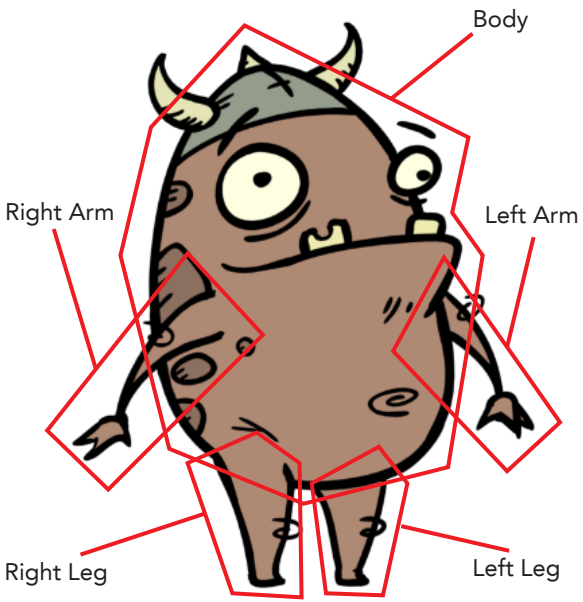
The breakdown task will be easier if your turnaround views are placed in separate cells on the same layer and centred in the Camera view. If your puppets are placed one beside the other, your final puppets will not align and will need to be repositioned.

Start by analyzing your character. What are the main parts? If you look at this sample character, Limpa, you can identify five main pieces:

- Body
- Left Arm
- Right Arm
- Left Leg
- Right Leg

Later on, you will break those sections in smaller pieces such as right hand, left foot, right eye, mouth, head, etc.

Before starting any breaking down, try to decide what will be separated from what. For example, to keep this puppet simple, we will keep the hat attached to the head, but you could decide to separate it from the head to be able to animate it independently.



It is wise to analyze your character before starting to cut it apart. You should be careful what you separate from each part. For example, do you want to separate the mouth from the head or not.

Breaking Down the Main Parts

To breakdown your character, use the Select tool and the Cutter tool.

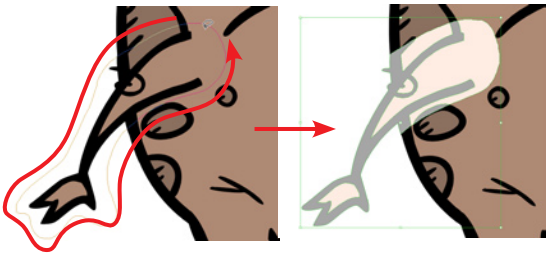
You do not need to create new layers when you break down your character. They will be created as you go.

Start by creating the main pieces of your character. In this case, the body, arms and legs.

Use the Cutter and Select tools to extract the parts, such as the arms, from the body and send them to separate layers. It does not matter if there are bits from other parts or gaps. You will fill and fix those later.

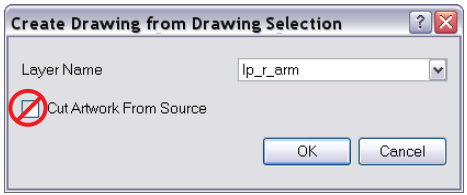
Only do the front or three-quarter view for now. You will break down the other views later on.

Note: You could also decide to add layers manually and redraw over the model if this technique does not suit your needs.

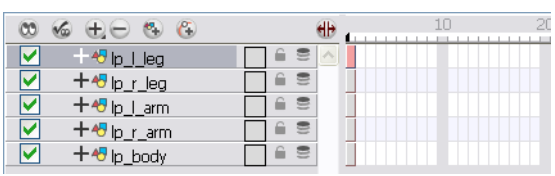


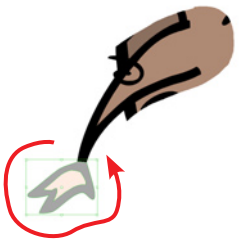
1. In the Tools toolbar, select the Cutter tool.
2. In the Tool Properties view, select the Lasso Selection option.
3. In the Camera view, trace a selection around the first part to separate it. In this case, we will do the right arm.
   - You can hold down the [Shift] key if you want to create a second area.
   - If you simply click on a line, it will be entirely selected until it meets an intersection.

There are several breakdown techniques. In this lesson, we show you the most commonly used. Refer to the Animate User Guide to get more tips about breaking down your puppet.



4. In the top menu, select **Edit > Create Drawing from Drawing Selection**. The default keyboard shortcut is [F9] (Windows) or [⌘]+[F9] (Mac OS X).
5. In the dialog box, type the new layer name.
6. Disable the **Cut Artwork from Source** option. When you create layers out of your colour model, you do not want to cut out the artwork.
7. Press the OK button to validate.
8. Repeat the process for each main piece: body, legs, arms, head, etc.





Once your main pieces are separated, you can start to break them down.

9. In the Camera view, select the hand from the new arm layer. **Do not** select it from the model.
10. In the top menu, select **Edit > Create Drawing from Drawing Selection**.
11. In the dialog box, type the new layer name.
12. Enable the **Cut Artwork from Source** option. You want to cut the hand away from the arm.
13. Click on the OK button.
14. Repeat the process for each part in the character to be broken down.

All of the parts should now be in separate layers.

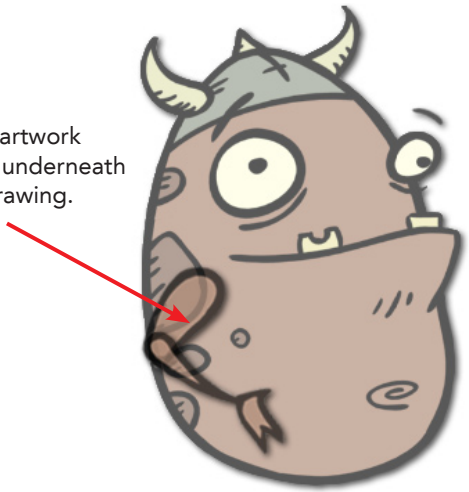
If you forget to send something into your new layer, you can add it afterward. If you select it and use the Create Drawing from Drawing Selection option, you can choose the existing layer in the drop-down menu.

Fixing Articulations and Gaps

Now that all your parts are in their respective layers, it is time to fix the rough cuts you did earlier and draw nice articulations. To do so, you will use tools such as:

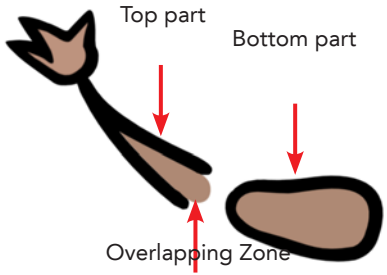
- Eraser tool
- Paint tool
- Contour Editor tool
- Brush tool
- Select tool

The body artwork continues underneath the arm drawing.



When you fix the joints, make sure they overlap properly. Remember that the puppet will be animated and each part will move and rotate, so make sure not to leave a gap in the part underneath.

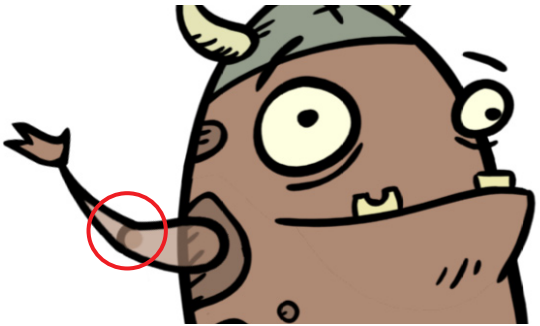
You could fix the gaps and remove the extra lines while breaking down the parts, but since you will have to fix the articulations afterward you are better off doing everything together.



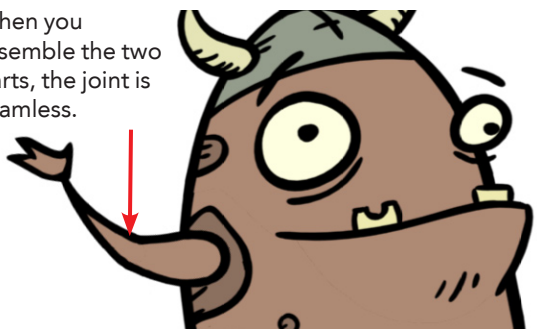
The easiest articulation to make is the classic joint. The classic joint consists in removing a portion of the outline on the overlapping part. For example, the outline around the elbow can be erased on the forearm piece. The arm placed beneath the forearm will keep its entire outline.

When you assemble those two pieces together, the joint is seamless and it looks like a single drawing!

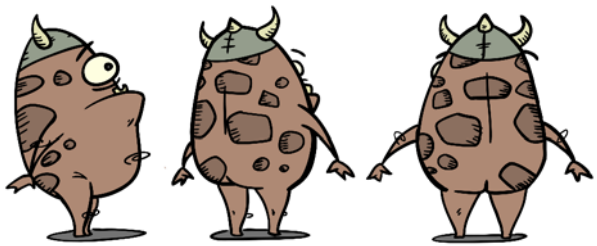
There are other ways to build articulations that are even more efficient. This one is the simplest and is often quite sufficient.



When you assemble the two parts, the joint is seamless.



Breaking Down the Other Views



When you have finished fixing your drawings and joints on your three-quarter view, you can start breaking down the other views such as side and back views.

Since you already broke down a view, the layers already exist and are named. You won't need to do it twice!

The breakdown principle is the same, except that your layers already exist.

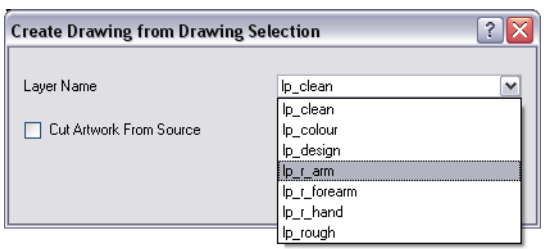
1. In the Timeline view, select the cell containing your view to breakdown.

2. In the Tools toolbar, select the Cutter tool or Select tool.
3. In the Camera view, trace a selection around the first part to separate it.

In the Timeline view, disable the checkbox if you want to hide certain layers while working. You can also enable the Lock option to avoid selecting or modifying layers.

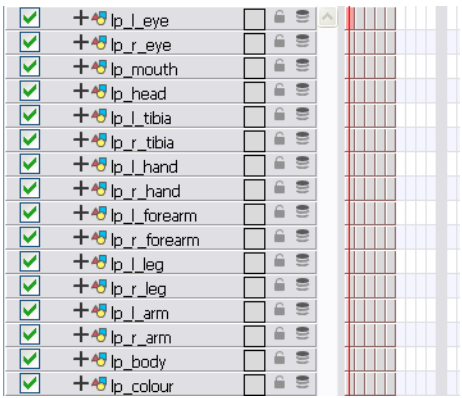
This time, you will add your selection to an existing layer, instead of creating a new layer.

4. In the top menu, select **Edit > Create Drawing from Drawing Selection**.
5. In the dialog box, select the desired layer from the Layer Name drop-down menu.
   - Disable or enable the **Cut Artwork from Source** option depending on what you are doing.



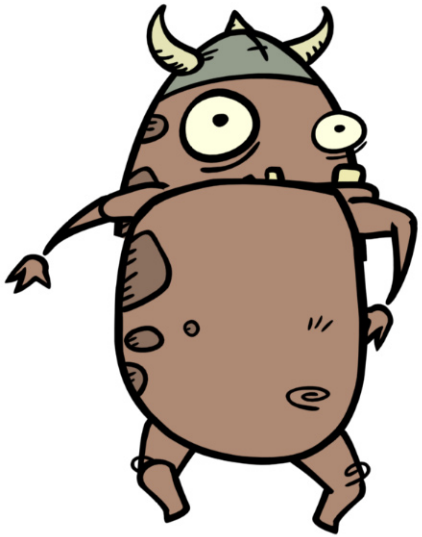
6. Click on the OK button.
7. Once the view is all broken down, fix the articulations and gaps.
8. Repeat the process for each view.

Once your timeline is completed it should look similar to this example.

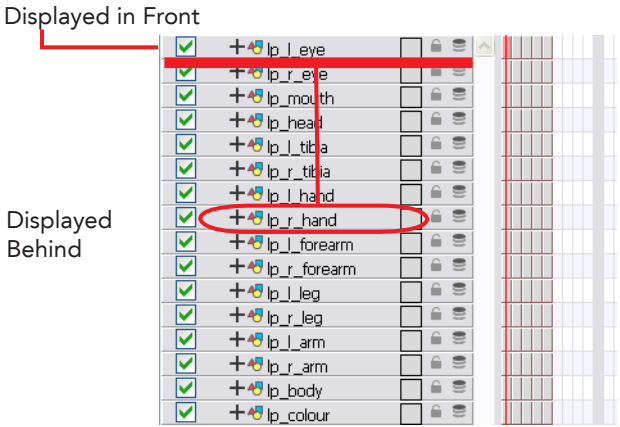


Refer to the Animate User Guide to find out more about the Create Drawing from Drawing Selection feature.

Ordering the Puppet's Layers



It is possible at this point your character's pieces may show up in the wrong order. There are two ways to fix this.

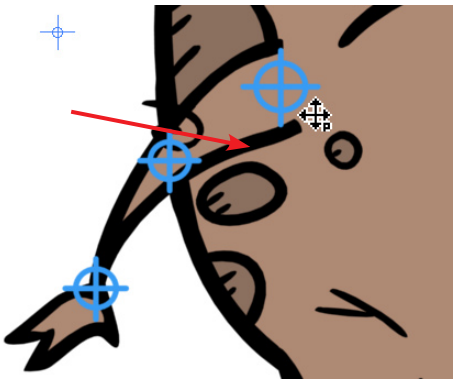


To reorder your layers drag them to a higher or lower level in the Timeline view. The top layer is displayed in front of the others and the bottom one is displayed behind.

1. In the Timeline view, drag the layer to reorder it and drop it in-between the other layers.
   Note: If you drop it on a layer, it will create a parent hierarchy, so make sure to drop it in-between layers.

If you select a layer and reposition it, its child layers will follow. There is no need to select all the layers.

Setting the Pivots



If you want your puppet's pieces to rotate properly, you need to set the pivot points. Even the eyes and mouth require you to set their pivots.

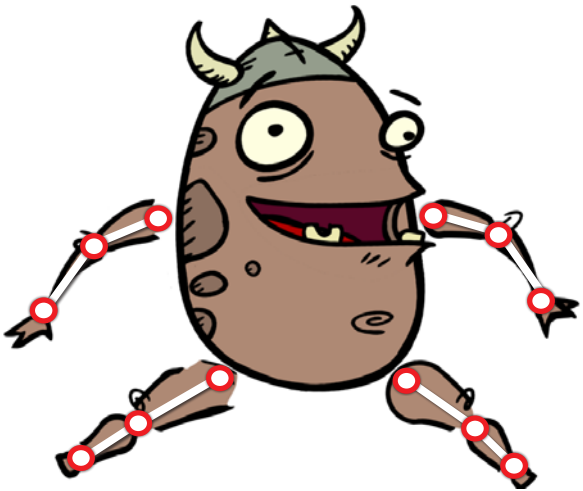
Do the following steps for each layer in the Timeline view.

To set the pivots for the Body parts:

1. In the Tools toolbar, select the Pivot tool.
2. In the Timeline view, select the cell you want to set the pivot for.
3. In the Camera view, click where you want the pivot to be. You can also drag the pivot marker to the desired location.
4. In the Timeline view, select the cell where you want to set the new pivot.
5. In the Camera view move the pivot to the desired position.

For more information about pivots, refer to the Animate User Guide.

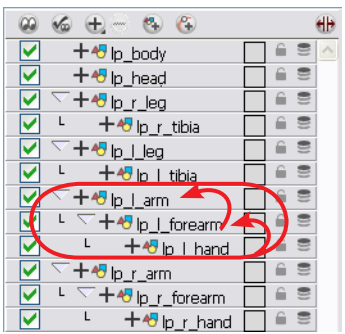
Creating Hierarchies



Animate lets you extend your rigging techniques beyond normal boundaries and set new standards. You can create hierarchies without encapsulating your layers inside each other by creating a linked structure between your layers.

To create a hierarchy:

1. Simply drag the child piece (hand) and drop it ON the parent piece (forearm). Then, you can drag the parent (forearm) piece on another parent piece (arm).



You should create a hierarchy of your arms and legs and keep the arms and legs separate from the body. This gives you more animation freedom.

Refer to the Animate User Guide to learn more about complete production rigging.

Ordering Layer Hierarchy

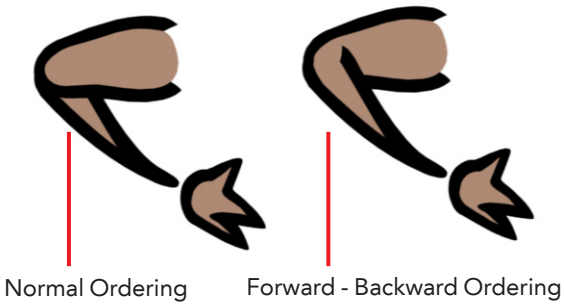
If you created a hierarchy of your arms, legs or other body parts, it is possible that you will want a child part, such as the hand, to appear in front of its parent. If you move the hand layer above the arm layer, you will break the hierarchy.

Therefore, to reorder a layer rigged in a hierarchy, nudge it forward or backward.

Animate allows you to move your elements in the three dimensions:

- Up and Down (Y)
- Left and Right (X)
- Forward and Backward (Z)

The same way you can create multiplane backgrounds (depth), you can do a micro nudge on the part to be reordered. This makes possible for a reordered part to appear in front of the other elements even if its layer is behind the other ones in the Timeline view. The Forward-Backward position can also be animated over time.



1. In the Tools toolbar, select the Transform tool.

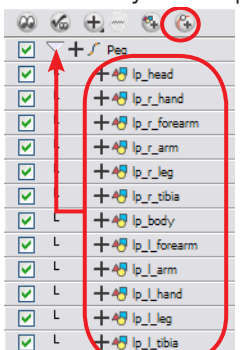
   Make sure to disable the Animate mode.
2. In the Camera view, select the element to reorder.
3. To move the element forward, user the default keyboard shortcut [Alt] + [Down Arrow] and to move the element backward, use the default keyboard shortcut [Alt] + [Up Arrow].

To move elements along the Z-axis, use the default keyboard shortcut [Alt] + Up Arrow to move the layer backward and [Alt] + Down Arrow to move the element forward.

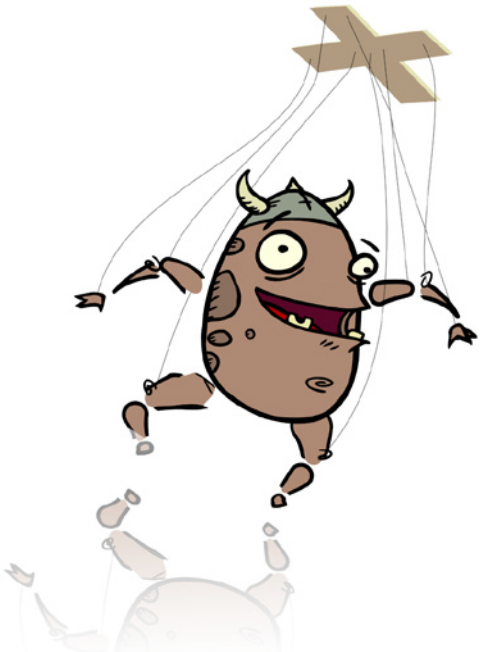
Adding a Master Peg

To control all your puppet's pieces together, you will need to add a peg layer at the top of your hierarchy. A peg layer is a trajectory on which you can attach your character. This way you can scale and reposition your complete character for the entire scene or over time.

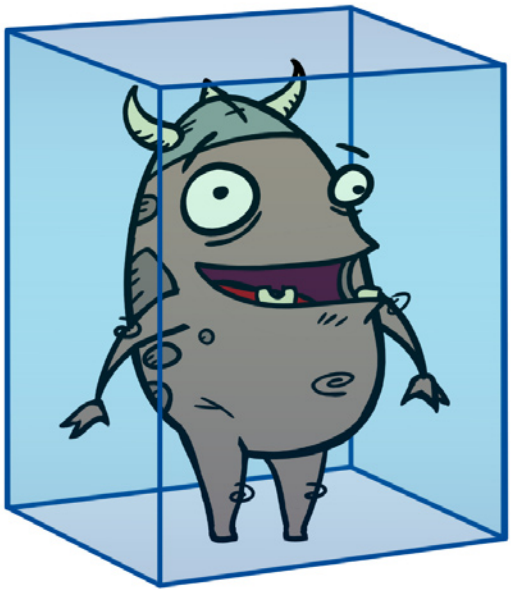
1. In the Timeline view, click on the Add Peg button. Name the new peg Master.
2. In the Timeline view, select all of the layers you want to attach to your new peg.



3. Drag your selection right on the peg layer to parent all your character's pieces to the peg.



Storing the Puppet in the Library

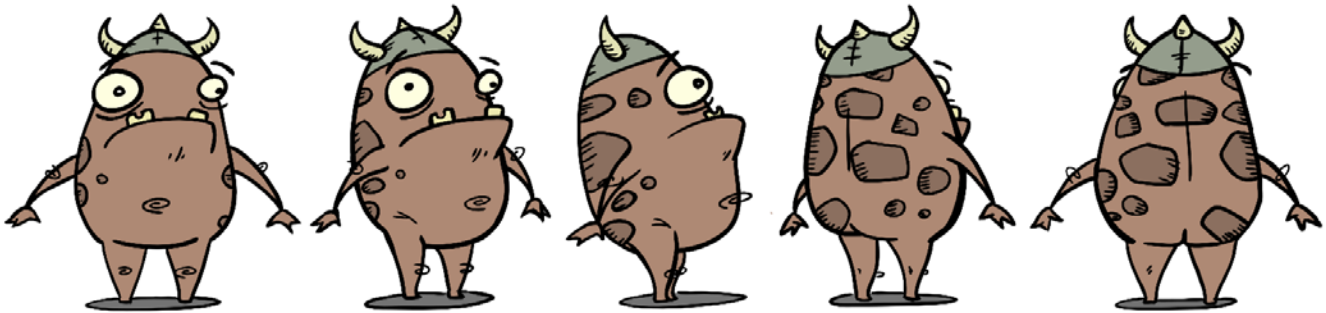


To store your character in the library you first need to create a position keyframe on all your layers and finally store it as a template in a sharing library.

1. In the Timeline view, select the first frame of every layer.
2. In the top menu, select **Insert > Keyframe** or use the default keyboard shortcut [Ctrl] + [F6] (WIndows) or [⌘]+[F6] (Mac).
3. In the Library view, select the Animate Library folder, right-click (Windows) or [Ctrl]+click (Mac OS) and select **Right To Modify**.
4. In the Timeline view, select all of your layers and drag them into the Animate Library.

You now have a complete cut-out puppet!

To find out more about sharing templates via the library, refer to the Animate User Guide.



Chapter 9 Animating Your Puppet

It is time to show off your animation skills! Toon Boom Animate was created for you to animate. It contains a series of animation tools beyond your expectations.

This lesson will cover the basics of cut-out animation, but there are an infinite number of possibilities. Take a look at the Animate User Guide to discover more about animation.

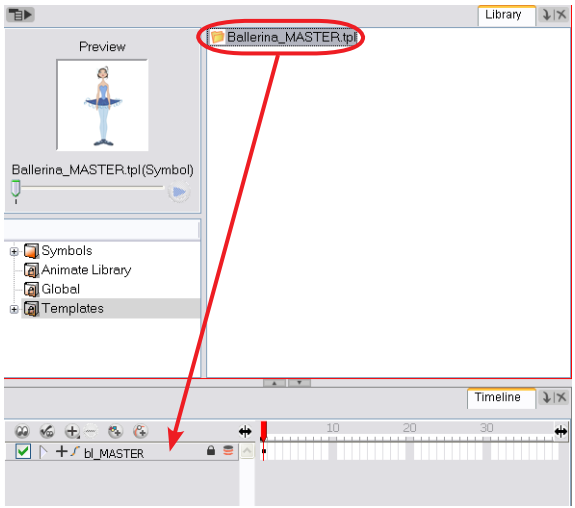
You can use the character you drew previously or use a character model from the sample material package:

- Undone_example_Sample_material > Chapter09_Sample_material.tpl

The topics are:

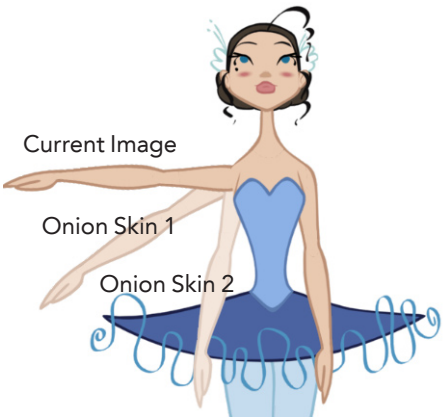
- Getting Ready to Animate
- Repositioning the Character
- Animating Using the Transform Tool
- Motion and Stop-Motion
- Swapping Images
- Inverse Kinematics Tool
- Easing

Getting Ready to Animate



To start this lesson, import your character into a new scene.

1. Create a new Animate project.
2. From the library, drag your character template into the Timeline view's left side.



Before starting your animation, you may want to enable the Onion Skin feature to see your previous and next frames as a reference.

- In the Tools toolbar, enable the Onion Skin option.
- You can also enable individual layer's onion skin by clicking on their Onion Skin icon in the Timeline view.

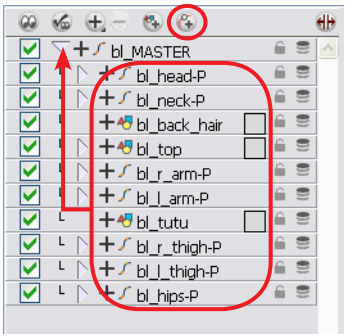
To use a character you previously built in another project and transformed into a symbol, drag the symbol into the Animate Library or into any other templates folder and transform it into a template.

Repositioning the Character

Now that you have your puppet on your stage, you probably need to resize and reposition it to fit your scene. When you need to scale down or move your character it's a good idea to hook (attach) the whole puppet to a trajectory.

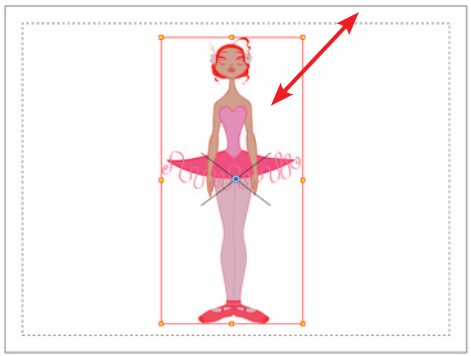
In Animate, there is a type of layer you can add to your timeline allowing you to create a motion path or to reposition drawings. This trajectory layer is called a Peg. Any drawing or layer you hook to a peg will follow the defined motion path, rotation, scaling and skewing information.

Attaching your puppet to a peg will allow you to scale it and reposition it without having to do it on all of your different parts and pieces. Only one layer will contain the position information, this makes your animation easier to modify and control.



If you do not have a top peg layer to control your character, you can add one at any time. A peg layer is a trajectory on which you can attach your character. This way you can scale and reposition your character for the entire scene or over time.

1. In the Timeline view, click on the Add Peg button. The new peg should be called **`Master`**.
2. In the Timeline view, select all of the layers you want to attach to your new peg.
3. Drag your selection right on the peg layer to parent all your character's pieces to the peg.

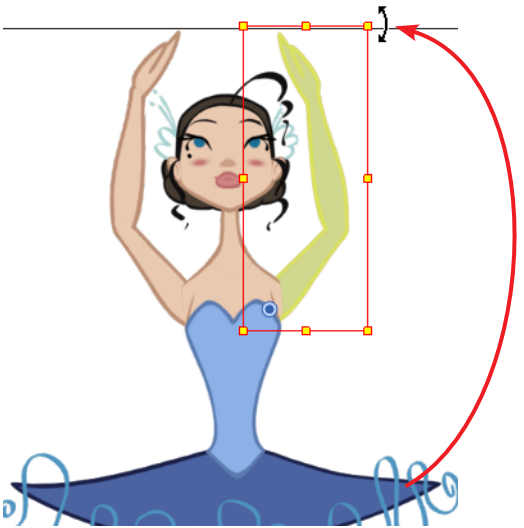


Next, you need to position your character on the stage by moving and scaling it to the correct size. You will not scale each layer individually. You either want to do it on the top symbol or top peg layer.

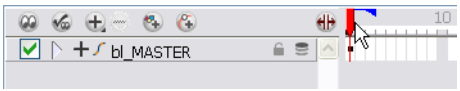
4. In the Timeline view, select the top peg layer (master peg).
5. In the Tools toolbar, select the Transform tool and disable the Animate mode.
6. In the Camera view, position the character.

You can change the Onion Skin display's look in the Preferences panel. In Edit > Preferences (Windows) or Animate > Preferences in (Mac OS X) go to the Drawing tab and change the Onion Skin Render Style option.

Animating Using the Transform Tool



From now on, the Transform tool will become your most useful tool. You will use it to do most of your animation. With the Transform tool, you can select, move, scale, rotate, skew, squash and stretch.

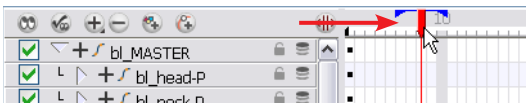


1. In the Timeline view, go to the frame where you want to animate your first pose. At this point, it is generally the first frame.
2. In the Tools toolbar, select the Transform tool and enable the Animate mode.
3. In the Camera view, select the part you want to animate and using the Transform tool's anchor points, move it to its new position.

The pose you are doing is automatically retained. There is no need to set a keyframe before moving your parts. As soon as you move an element in your Camera view, a keyframe is set on the current frame in the Timeline view.

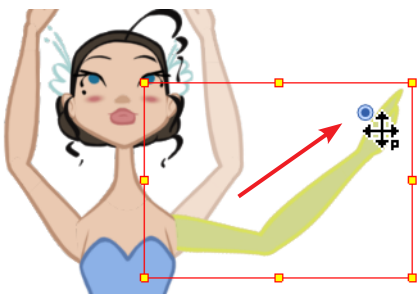
Remember, animation keyframes and drawings are not the same thing. If you swap a drawing, you do not need to insert a keyframe in your timeline.

To avoid selecting some layers, click on the Lock button in the Timeline view. In the Preferences panel, you can go to the Camera view tab and enable the Show Locked Drawings as Outlines to see through them.

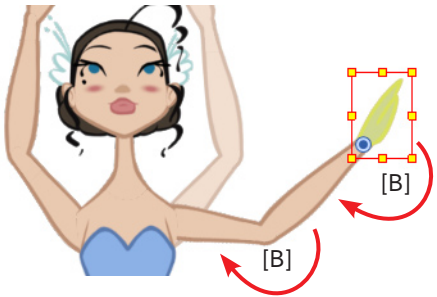


Once your first pose is ready, move on to your next key pose.

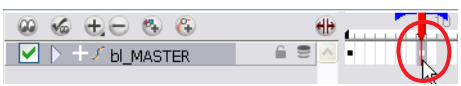
4. In the Timeline view, move to the frame where you want your second pose.



If you need to, you can temporarily move the Transform tool's pivot to provide a better rotation or scale centre. Simply drag it to where you need it. Next time you select your element, it will be back to its original place.



You can also select your current selection's parent layer by using the default keyboard shortcut [B]. If you press on it repeatedly, you will go up the entire parent chain until the master peg or highest layer in the tree.

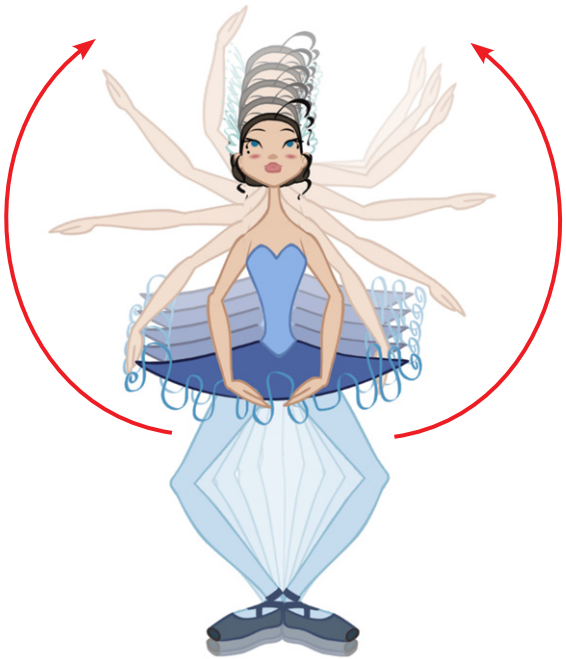


We recommend that you collapse your master peg and add a keyframe after your pose is set. This will lock all of the parts in place. You only need to do this once.

5. In the Timeline view, select the pose and press [F6].

When you select a series of elements using the [Shift] key, the pivot used by the Transform tool will be in the first selected element.

Motion and Stop-Motion



By default, your keyframes will be created as Motion Keyframes. This means that Animate automatically generates the animation between your poses.

Because you may not necessarily want that, you can set your keyframe creation mode to create Stop-Motion Keyframes. Later on, you will be able to convert the desired keyframes to Motion Keyframes.

- In the top menu, select **Animation > Stop-Motion Keyframe**.

To switch between Motion and Stop-Motion Keyframes:

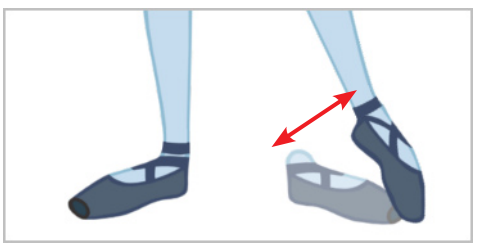
1. In the Timeline view, select the keyframes to convert.
2. Right-click (Windows) or [Ctrl] + click (Mac OS X) and select **Set Stop-Motion Keyframe** or **Set Motion Keyframe** .
3. Press the button to see your animation.

To flip between the keyframes of the selected layer, use the [PgUp] and [PgDown] keyboard shortcuts.

Swapping Images

Cut-out animation is not only about moving pieces around, it's also about switching some drawings around. For example, the ballerina Giselle wants to point her toes.

Instead of rotating the foot, you can swap the regular foot drawing for another one that you drew when you built your character. You could also create an empty drawing on your foot layer and draw a new foot while animating.



To swap a drawing:

1. In the Camera view, with the Transform tool, select the part you want to swap.
2. In the Library view, go to the Drawing Substitution section.
3. Move the substitution slider to the right or left to scroll through the symbol's frames or drawings. You can also use the keyboard shortcuts [[ ] and [ ]].

To quickly swap drawings and frames around, use the [[ ] and the [ ]] keyboard shortcuts.

Inverse Kinematics Tool

The Inverse Kinematics tool (IK) allows you to pull on your character's extremities, such as the hands and feet, and get the rest of the body to follow!

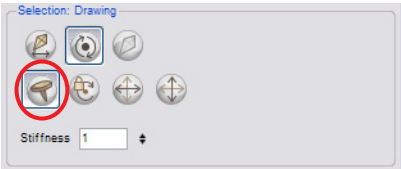
For the IK to work on your character, there are some preconditions:

- Your character must have hierarchy chains, for instance, the hand is attached to the forearm and the forearm is attached to the arm.
- Your character is not required to be entirely done with hierarchy chains. You can have mixed technique and it will still work well. IK works with characters rigged with symbols, drawing layers and pegs.

The IK will work at its best when you lock a part on the spot, such as a foot on the floor, and then select the entire body or another extremity and move it.

To lock a piece in place, you will use the IK Nail option.

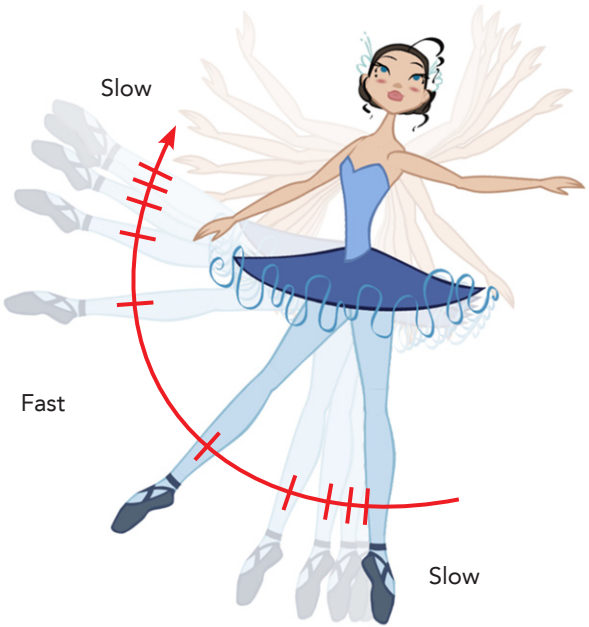
While using the IK tool, you can hold down the [Ctrl] key to select any part.



1. In the Tools toolbar, select the Inverse Kinematics tool.
2. In the Camera view, hold down [Ctrl] (Windows) or [⌘] (Mac OS X) and click on the part you want to lock down.
3. In the IK Tool Properties, click on the IK Nail button.
4. In the Camera view, press the [B] key until the body is completely selected.
5. Click on the pieces' bone to reposition the character.
6. Using the IK tool and the Transform tool, fine-tune the character's pose.
   - ▶ Using the IK tool, holding down the [Alt] key, you can rotate the selected part without moving the rest of the body.

The Inverse Kinematics tool has a lot of options. Refer to the Animate User Guide for more information about them.

Easing



If you used Motion Keyframes in your animation, you will certainly want to add some ease in and ease out to smooth out your movements and avoid having a robotic animation.

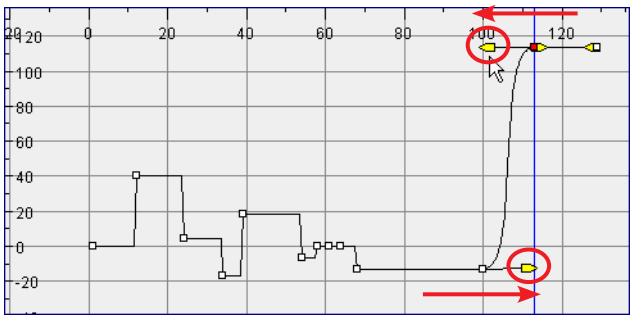
There are two ways to set an ease on your animation: directly on the function curve or using the Set Ease For Multiple Parameters script.

1. In the Timeline view, expand the layer corresponding to the part you want to set the ease on by clicking on the Show Functions + button. If the layer is a parent, make sure to expand its children by clicking on the Expand Hierarchy arrow.
2. Double-click on the function corresponding to the movement you want to ease, such as Angle, for the rotation of the thigh. This opens the Function Editor.

You can display function curves in the Function view by clicking on the function layers in the Timeline view.

In the Function Editor, you can see all of the keyframes corresponding to the thigh rotation animation.

3. In the function curve, locate the keyframe corresponding to the animation you want to ease.
4. Select the keyframe and pull on the Bezier handle.

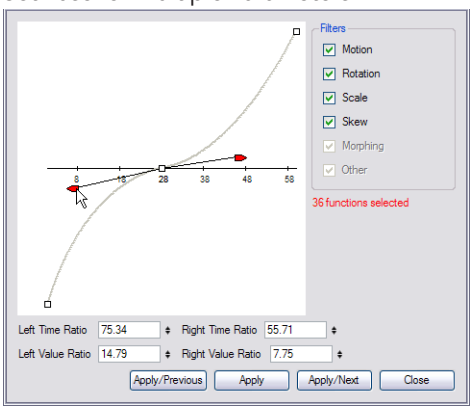


▶ The more you pull on it, the stronger the ease will be.

This technique is good when you have to do a simple ease. However, when you have a series of layers you want to set to the same ease it can be tedious and repetitive. Instead, you will use the Set Ease for Multiple Parameters function.

1. In the Timeline view, collapse the parent peg layer containing all of the layers you want to ease.

2. Right-click (Windows) or [Ctrl]+click (Mac) and select Set Ease for Multiple Parameters.



3. Pull on the Bezier handle and adjust the keyframe's velocity.
4. Click on the Apply button and then on the Close button.

To display a toolbar, select Window > Toolbars and the desired toolbar.

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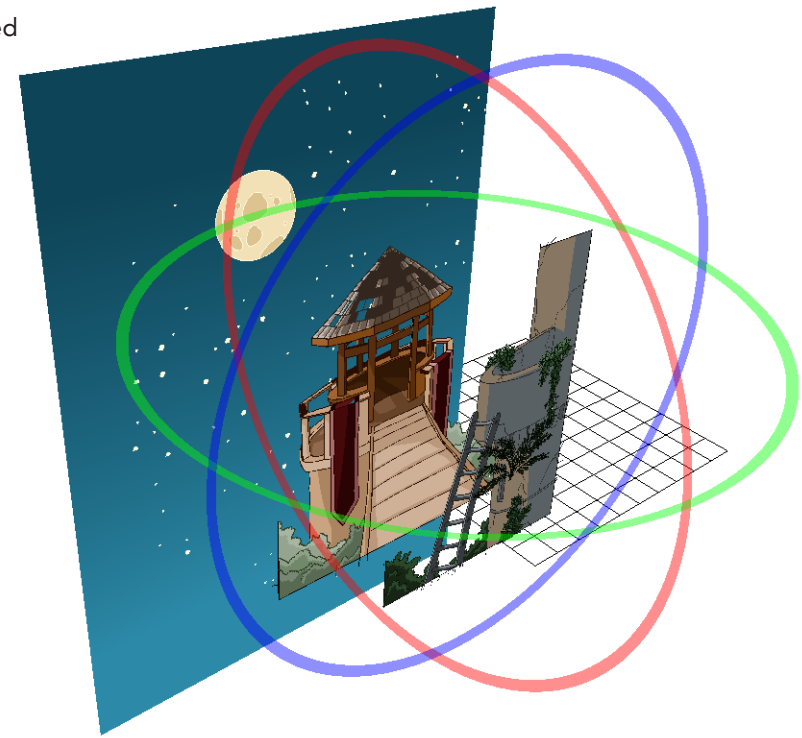
Developing creativity from elementary to university

Chapter 10 Creating a Multiplane and Animating the Camera

One of the most exciting features in Toon Boom Animate is the Multiplane, also called Z-depth. In the Multiplane you can create backgrounds in several layers, spread them on the Z-axis, add depth, and then move the camera through this environment to create an impressive perspective illusion.



You can create your own background, use a layered PSD file or use a project from the sample material package:

- Undone_example_Sample_material > Chapter10_Sample_material.tpl

The topics are:

- Building a Multiplane
- Setting the Multiplane Space
- Animating the Camera

Building a Multiplane

To construct a multiplane, you must imagine what a real environment is like. Take a look at this picture and imagine the camera moving across the space. You will notice that objects in the picture will move at different speeds depending on where they are in relation to the camera lens.

In this picture the moon is almost stationary and the tower in front of it is moving very slowly, but the tower closest to the foreground is moving faster and the plant in the foreground is flying by really quickly.

Building a multiplane requires an understanding of your background and which object should be placed in the different layers. You want to separate all the main elements, but not every small object.

For example, in this background, the main objects to be separated are:

- Fern
- Front tower
- Second tower
- Moon
- Stars
- Sky

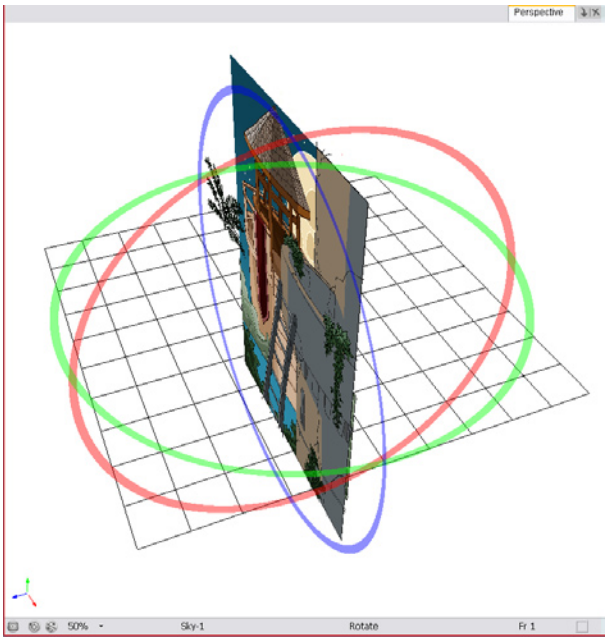
However, some objects are not separated, such as the plants and the front tower or the roof and the second tower.

Also, each layer must be a complete drawing because even if the bottom of the tower is hidden behind the plant and the ladder, later on in the scene, the hidden portions may show up.

If you move a camera over a drawing, all the objects in the drawing move at the same speed. If you move the camera across the room, you will see all the objects are moving at different speeds, producing a depth effect.

Build your backgrounds in Toon Boom Animate so that they are vector drawings. You can zoom as much as you want on vector drawings, but zooming a lot on bitmap images will result in pixelation.

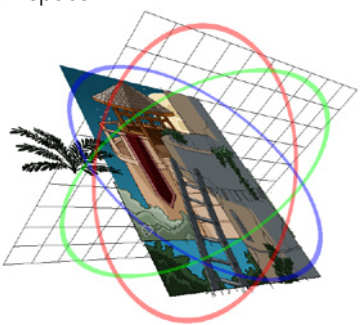
Setting the Multiplane Space



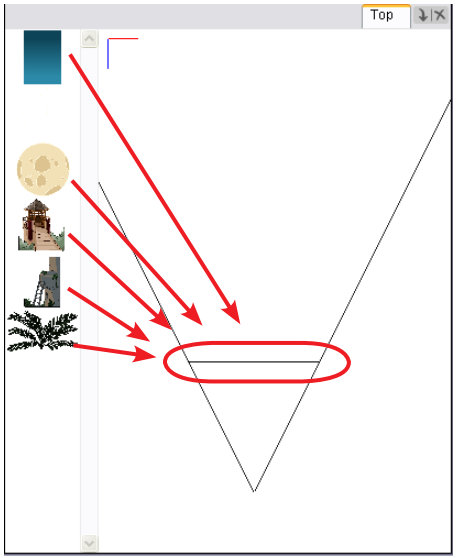
By default, all of your layers are set at the same distance. They are all located at "0". You can see it better in the Perspective view.

1. To open the Perspective view, select **Windows > Perspective**.
2. In the Tools toolbar, select the Rotate View tool.

   The default keyboard shortcut is [Ctrl]+[Alt] for Windows or [⌘]+[Alt] for Mac.
3. In the Perspective view, rotate the stage to view the 3D space.



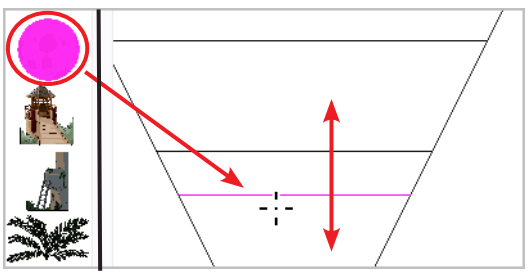
Use the default keyboard shortcut [Ctrl]+[Alt] in Windows or [⌘]+[Alt] in Mac OS to rotate the Perspective view.



To set your multiplane space, you will use the Top view.

In the Top view, you can see the camera cone and all the layers set at the same distance.

1. To display the Top view, select **Windows > Top**.
2. To display the Advanced Animation toolbar, select **Windows > Toolbars >Advanced Animation**.
3. In the Advanced Animation toolbar, select the Maintain Size tool. This tool scales your layer as you move forward or backward in the Top view.
4. In the Top view's left side, select the layer you want to move.



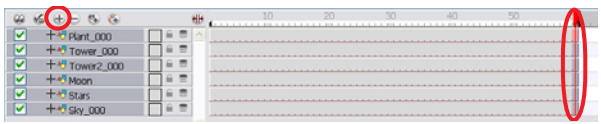
5. In the Top view's right side, move the selected layer up to push it backward, or down to bring it forward. It is possible that you will not see the selected layer, but you can still move it.

The Maintain Size tool will scale your layer as you move it forward or backward and maintain the original look which you set in the Camera view. The depth effect will be visible once you move the camera.

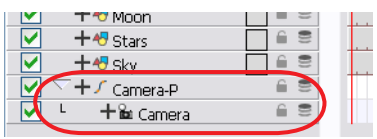
Animating the Camera

Since you will animate the camera over time, you will need to extend your layers' exposure. The camera is a static element, to animate it you will need to add a trajectory layer called a Peg.

1. In the Timeline view, select the last frame of each layer.



2. Press [F5] to extend the exposure until the end.
3. In the Timeline toolbar, click on the Add Layers button and in the drop-down list, select **Camera**.
4. In the Timeline view, select the Camera layer.
5. In the Timeline toolbar, click on the Add Peg button.



You can animate the camera using the Translate tool, Rotate tool and Scale tool available in the Advanced Animation toolbar.

To animate the Camera:

1. In the Tools toolbar, enable the Animate mode.
2. In the Advanced Animation toolbar, select the Translate tool.
3. In the Timeline view, go to the first frame.
4. Select the Camera's Peg and reposition it in the Top view and Camera view.
5. In the Timeline view, go to the last frame.
6. Select the Camera's Peg and position it closer to the background in the Top view and Camera view.

You can animate the camera in the Camera view by using the Translate tool available in the Advanced Animation toolbar.

7. In the Playback toolbar, click on the Play button to view your animation.

Have you seen our tricks?

Whether you're a novice or an expert, all users will benefit from our free articles available in the eLearning section of our website.

Visit our website and learn about subjects such as:

- Rigging
- How to Make a Camera or Object Shake
- Sunrise Sunset
- Lens Flare FX Template
- Storyboarding Without a Pencil
- Importing a Final Draft Script in Storyboard

TOON BOOM

Chapter 11 Sound and Lip-Sync

Adding lip-sync to a project can really enhance its quality and storytelling. But animating a lip-sync can often be tricky. In Toon Boom Animate there are many useful features available to help you complete this task quickly and efficiently.

You can lip-sync the traditional way or let the system automatically create the basic detection.

You can use your own lip-sync ready cut-out character and sound file or use the ones provided to you in the sample material package.

The topics are:

- Importing a Sound
- Decoding your Sound
- Assigning the Mouth Shapes
- Swapping Mouths
- Playing Back and Exporting

The following sample material is located in the Animate Library of your operating system*:

- Undone_example_Sample_material > Chapter11_Sample_material.tpl
- **Mac**
  /Applications/Toon Boom Animate 2/ Templates/Samples/ SuperHero_Soundtracks
- **Windows XP**
  C:\Documents and Settings\All Users\ Documents\Toon Boom Animation\Toon Boom Animate 2\Templates\Samples\SuperHero_ Soundtracks
- **Windows Vista and 7**
  C:\Users\Public\Documents\Toon Boom Animation\Toon Boom Animate 2\Templates\ Samples\SuperHero_Soundtracks

* For Animate Pro, browse for Toon Boom Animate Pro 2 rather than Toon Boom Animate 2.

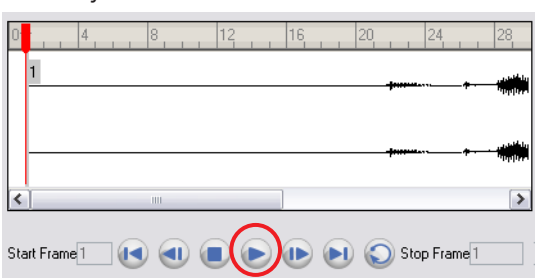
Importing a Sound

The first step in lip-synching an animation is importing the dialogue into your scene. The dialogue is a sound file which only contains your character's voice. It is important to only have the sound of the voice in this file as it will be the only sound which the lip-sync process will detect. In this example, the dialogue we will use is **`cartoon_monster-01.wav`**.

1. Select **File > Import > Sound**.
2. In the Select Sound File browser, select your sound file* and click on the OK button.

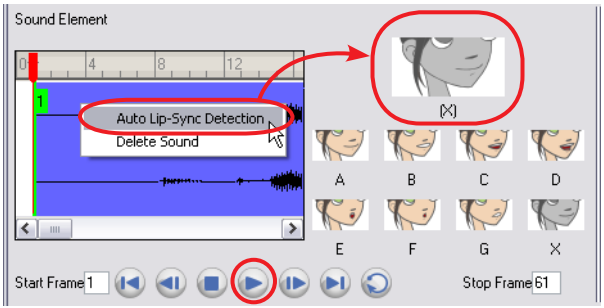
The sound layer will appear in the Timeline view and be displayed as a waveform. You can play your sound in the Timeline view and Sound Editor.

1. In the Timeline view, double-click on the sound layer to open the Sound Editor.
2. In the Sound Editor, press on the Play button to listen to your sound.



*** Refer to the previous page for the complete sample material paths.**

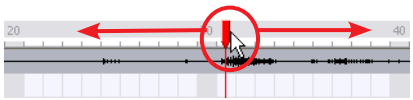
Decoding your Sound



A great way to determine the timing of the mouth animation is to use the Auto Lip-Sync Detection feature. It automatically detects each phoneme and assigns a mouth shape to it.

1. In the Sound Editor, right-click (Windows) or [Ctrl]+Click (Mac OS X) in the Sound Element space and select **Auto Lip-Sync Detection**.
2. Press on the Play button to view the result in the preview space.

   An X mouth shape appears when no sound has been detected for a frame.



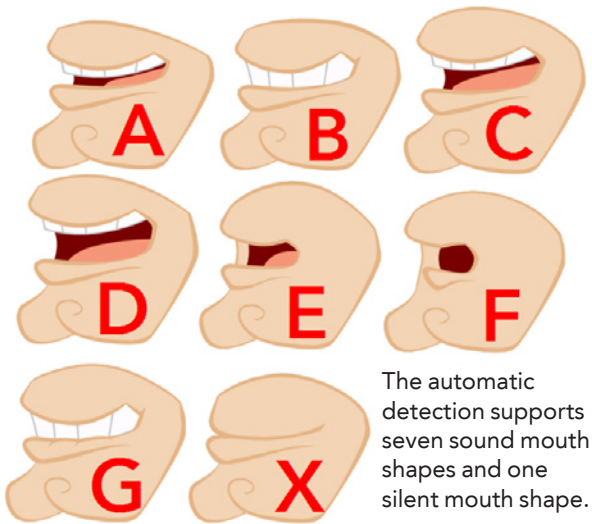
You can also detect your sound or fine tune the automated detection using the Sound Scrubbing feature. This feature lets you scroll through the character's voice waveform in the Timeline view and listen to the sound one frame at a time.

1. In the Playback toolbar, click on the Sound Scrubbing button.
2. In the Timeline view, click and drag the red marker to scroll through the scene and scrub the sound.

Read the Swapping Mouths topic to learn how to assign your mouth shapes as you decode your sound manually.

Refer to the Animate User Guide to learn more about the Auto Lip-Sync Detection and Sound Scrubbing features.

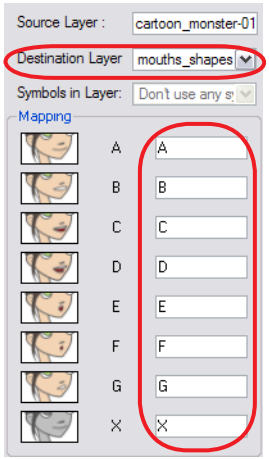
Assigning the Mouth Shapes



The automatic detection supports seven sound mouth shapes and one silent mouth shape.

Now it is time to assign the detected mouth shape to your actual character mouth shapes layer.

1. In the Timeline view's right side, right-click (Windows) or [Ctrl]+Click (Mac OS X) on the sound layer and select **Lip-Sync > Map Lip-Sync.**
2. In the Mapping Lip-Sync dialog box, choose the layer that contains your character's mouths in the Destination Layer drop-down menu.
3. In the Mapping fields, enter the name of each of your layer's mouth shapes drawing. In this example, the actual drawing names, match the mouth shapes convention, so there is no need to change it.
4. Press on the OK button.

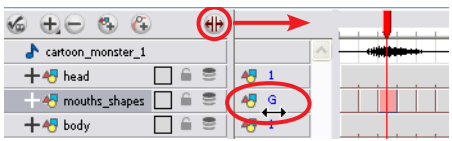


The lip-sync timing is now all set in the Timeline view, in the mouth_shapes layer.

Swapping Mouths

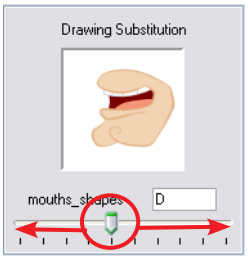
You can use the drawing swap feature to time your lip-sync from the start, or use it to quickly complete the Auto Lip-Sync Detection and Map Lip-Sync results.

1. In the Timeline view, click on the Expand button to display the Data view.



2. In the Timeline view, select the cell containing the mouth shape you want to swap.
3. In the Data view space, place your cursor on top of the drawing name until it changes to the swapping pointer, and choose the mouth shape you want to expose.

You can also use the Drawing Substitution panel to swap drawings.



1. In the Timeline view, select the cell containing the mouth shape you want to swap.
2. In the Library view, in the Drawing Substitution space, click and drag the slider to choose the desired mouth shape. This automatically swaps the current drawing for the one displayed in the preview window. You can also use the default keyboard shortcuts [**[**] or [**]**].

Refer to the Animate User Guide to learn more about swapping drawings.

Playing Back and Exporting

Now it is time to playback the result and export the finished animation to a QuickTime movie file.

1. In the Playback toolbar, click on the Enable Sound button. This will let you hear the sound of your scene during playback.
2. In the Playback toolbar, click on the Play button and view your animation in the Camera view.

To export a QuickTime movie:

1. Select **File > Export > Movie**.
2. In the Export to QuickTime movie dialog box, click on the Browse button to name the movie and select where you want to save the file.
3. Select either a specific frame range or the entire animation to export.
4. You can also set the Video and Sound options as required.
5. Click on the OK button to export your animation to a QuickTime format.

Refer to the Animate User Guide to learn more about export options and parameters.

Chapter 12 Morphing a Flag

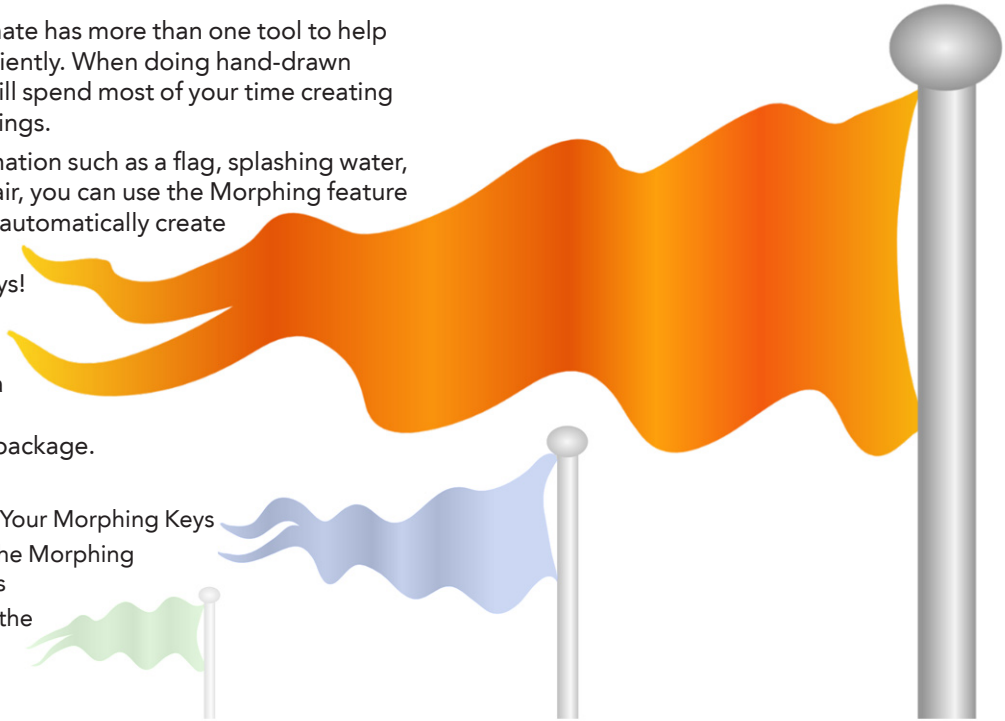
Toon Boom Animate has more than one tool to help you animate efficiently. When doing hand-drawn animation, you will spend most of your time creating in-between drawings.

For a simple animation such as a flag, splashing water, smoke or even hair, you can use the Morphing feature to let the system automatically create the drawings between your keys!

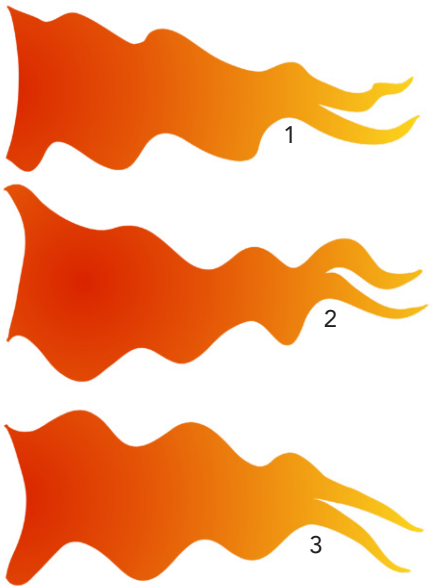
You can create your own drawings or use a project from the sample material package.

The topics are:

- Preparing Your Morphing Keys
- Creating the Morphing Sequences
- Adjusting the Ease



Preparing Your Morphing Keys



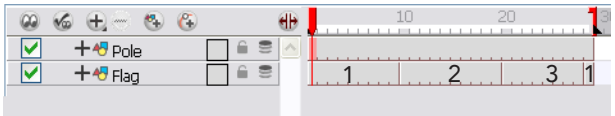
The Morphing feature can be used to create computer generated drawings between simple shapes. Your drawings can have outlines or not. It is up to you!

Your key drawings have to follow these basic rules:

- Drawings must be painted with the same colour swatches.
- Drawings must have the same number of zones. If a colour zone does not exist in one of the two key drawings, it will progressively appear or vanish.
- Drawings must be flattened.
- A contour line (fill) must be morphed with a contour line, and a centre line (pencil) must be morphed with a pencil line.
- You can have several colours in a morphing key.
- You cannot morph colour tints.

To create your first morphing sequence, try using simple shapes without an outline. Once you master the feature, you can experiment as much as you want.

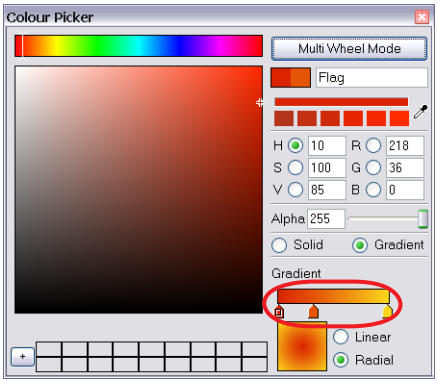
When you animate effects such as smoke, think of using the Morphing feature to create your in-betweens. It has the advantage of being reusable and you can change the timing to create longer or shorter animations.



To morph the flag, first draw three keyposes and set their approximate timing. Note, once your morphing sequence is done you can always increase or decrease your timing.

We added a flagpole layer. You can do the same.

1. In the Timeline view, add a drawing layer and name it "**`Flag`**".
2. In the Tools toolbar, select the Brush tool.
3. In the Colour view, select a solid colour.
4. In the Camera view, draw your first flag.
5. In the Tools toolbar, select the Paint tool and paint your flag using the same colour.
6. In the Tools toolbar, select the Select tool.
7. In the Camera view, select your entire flag.
8. In the Tools Properties view, click on the Flatten button.
9. Repeat the same steps for the two other flag drawings. Create your drawings on frames 10 and 20.



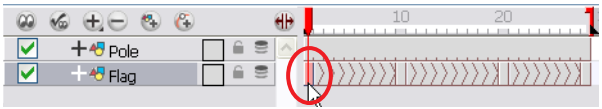
Once your are done creating your key drawings, you can transform your solid colour into a gradient to make the flag even more interesting. You can then add several gradient arrows to simulate highlights and shadows.

From the Tools toolbar, use the Edit Gradient/Texture tool to reposition your gradient zones the way you want.

10. Copy your first key drawing and paste it at frame 30.

If you set two different gradient positions on your key drawings with the Edit Gradient/Texture tool the position will be interpolated during the morphing sequence.

Creating the Morphing Sequences



You are now ready to create your first morphing sequence!

1. In the Timeline view, select your first key drawing.
2. Right-click (Windows) or [Ctrl] + click (Mac OS) and select **Morphing > Create Morphing**.
3. Repeat the process for each key drawing.

You now have three morphing sequence.

4. In the Playback toolbar, press the Play button to see the result.

As you probably noticed, there are in-between drawings, but they are not necessarily going the way you want. Your flag probably looks like a piece of cardboard bending instead of smoothly flapping in the wind. Also, it is most likely that you will have strange corners and points.

All that is because the system is always looking for the closest similar line, corner or curve to morph the drawing.

To fix random results like this one, you will place morphing hints along the flag's contours.

To fix a morphing sequence, you need to control its behaviour with Morphing Hint points. Hint points associate areas from the key drawings together so that the system knows how to control the drawings.

You can control different aspects of your animation. Here, we will focus on controlling the contour using Contour Hint points.

When fixing a morphing sequence, you will add points all across the screen. This is done progressively. To fix the flag, will take you three passes:

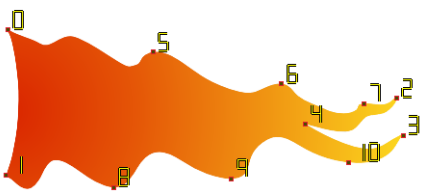
- Blocking the corners
- Animating the wind waves
- Fixing the remaining details

The Hint points tell the system how to animate your drawings. It is almost like telling your assistant animator what to do.

When you add points on the corners and tips, you will see that most of the shape problems are resolved. Fixing one big problem will often fix all the small ones.

1. In the Tools toolbar, select the Morphing tool.
2. In the Timeline view, select the first key drawing.
3. In the Tool Properties, select the Contour Hint option.
4. In the Camera view, click in the screen to add a new Contour hint.
5. Select the hint point and drag it toward the flag's contour until it snaps.
6. Position the hint on a corner to lock it in place.
7. Repeat these steps for all of the corners.
8. Press [F4] to switch to the other key drawing.

9. Select the existing hint points and snap them to the corresponding corners.

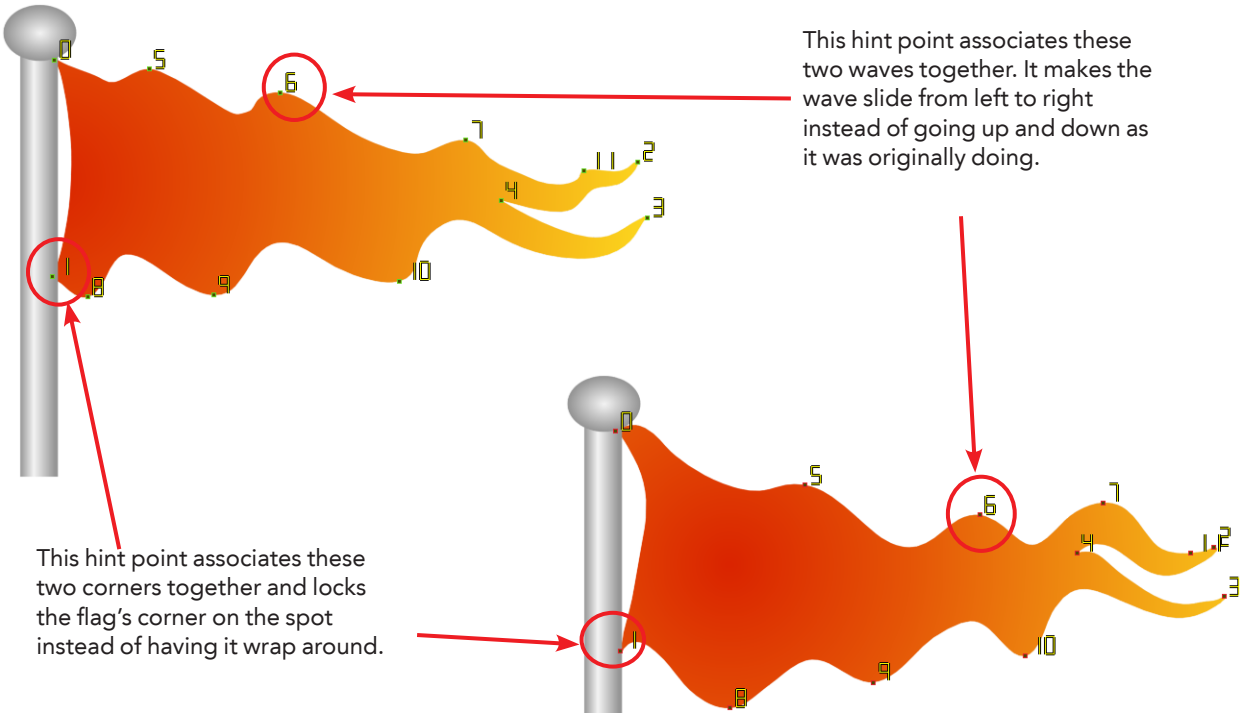


10. In the first and second key drawings, associate the wind waves so that it will slide to the right instead of up and down.

After fixing the corners and waves, there should only be a few details left to fix.

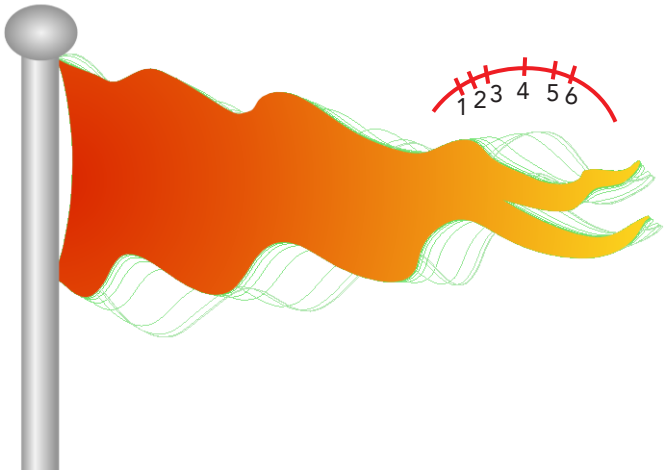
11. Set your hint points on the other morphing sequence in the same way you did for the first one.

A morphing sequence is composed of two drawings. If you have more than one morphing sequence, you will need to set hint points for each sequence. If a drawing is used in two sequence, it will have two sets of hints.

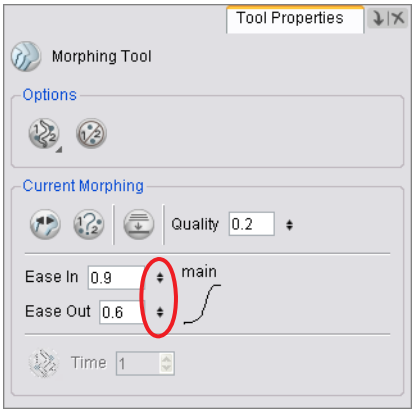


First set your hint points in the corners and intersections. Use the many types of hint points to control different aspects of your morphing sequence. Refer to the Animate User Guide to find out more.

Adjusting the Ease



Once your morphing sequence is completed, you can adjust the ease so that your animation does not look too mechanical.



1. In the Tools toolbar, select the Morphing tool.
2. In the Timeline view, select the first key drawing.
3. In the Tool Properties view, set the Ease In and Ease Out values by clicking on the Increase and Decrease arrows.

You are now ready to explore the Morphing capabilities!

If you are morphing a drawing with holes, such as a donut, you need to enable the Flatten option in the Morphing tool's Tool Properties view.

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Chapter 13 Creating Effects (Animate Only)

In Toon Boom Animate, there are many effects you can easily use to improve the quality of a project.

In this chapter you will use two of these effects in a production-like context to enhance your scene.

You can practice these effects on material you create from scratch or you can also use the sample material:

- Undone_example_Sample_material > Chapter13_Sample_material.tpl

The topics are:

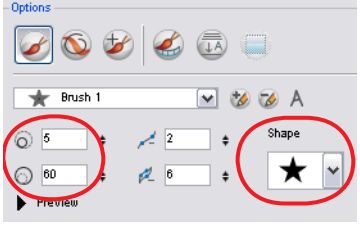
- Painting a Starry Sky
- Making your Stars Glow
- Fading your Stars
- Lighting Up the Lampposts
- Making it Shine in the Night
- Keeping Your Distance
- Preparing to Hit the Switch
- Hitting the Switch
- Shooting Star
- Putting On a Mask
- Editing the Mask

This chapter does NOT apply to Animate Pro. Refer to the Animate Pro Getting Started Guide to learn how to create effects in Animate Pro, using the exclusive Network view.

Painting a Starry Sky

To build a starry night effect, we first need a layer of stars. In Animate, select a star-shaped brush, pick a star-like colour, and draw stars on a new drawing layer!

1. In the Timeline view, click on the Add Layers button to add a Drawing layer on top of your background.
2. Name the new layer **Stars** and click on its first cell.
3. In the Tools toolbar, select the Brush tool.
4. In the Tool Properties view, select a star shaped tip and customize the minimum and maximum size values so that you have a range of star sizes when you draw with your pen tablet.



5. In the Colour view, pick a star-like colour.
6. In the Camera view, draw your stars.

Refer to the Animate User Guide to learn more about the Tools Properties.

Making your Stars Glow

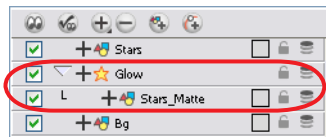
Now that you have stars in your project, it is time to make them shine!

As you customize your effects, you can preview the final result in the Camera view.

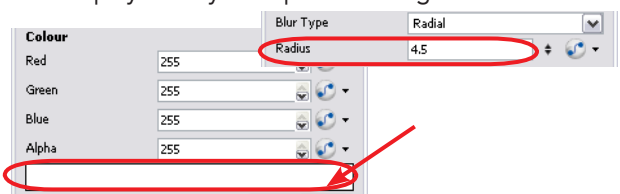
1. In the Camera view bottom toolbar, click on the Render mode button.
2. To update the preview, click on the Update Preview button.

To make your stars glow:

1. In the Timeline view, right-click (Windows) or [Ctrl]+Click (Mac OS X) on the Stars layer and select Duplicate Selected Elements.
2. Rename the new layer **`Stars_Matte`**.
3. Click on the Add Layers button and select **Effect > Glow.**
4. Click and drag the Star_Matte layer on the Glow effect layer.



5. In the Timeline view, double-click on the Glow layer to display the Layer Properties dialog box.



6. Set the Blur Radius value.
7. Pick a colour and alpha value. Double-click on the colour swatch to display the Colour Picker.

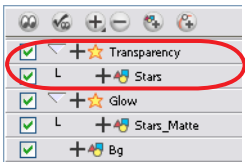
You can enable the Auto Render preview option by clicking and holding the Update preview button in the Camera view bottom toolbar and selecting Auto Render.

Fading your Stars

Now that your sky is glowing with stars, you might want to soften them a bit. Try adding a Transparency effect on your Star layer.

1. In the Timeline view, click on the Add Layers button and select **Effect > Transparency**.

2. In the Timeline view, click and drag the Stars layer on the Transparency effect layer to connect it.

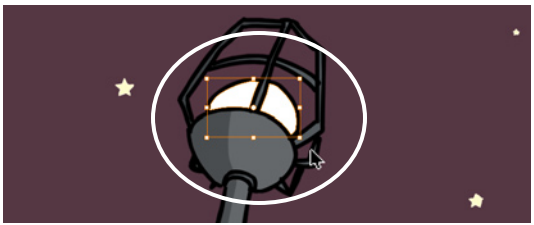


3. In the Timeline view, double-click on the Transparency layer to modify the transparency value of your layer.

4. Display the result in the Camera view using the Render mode.

Lighting Up the Lampposts

Lighting up the lampposts is as easy as making the stars shine. But first, you have to create a lamp layer from the background layer.

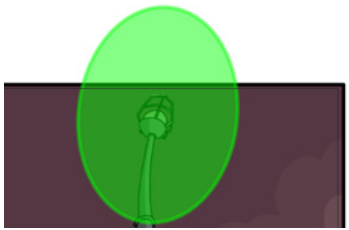


1. In the Timeline view, select the Bg layer's first cell.
2. In the Tools toolbar, select the Select tool.
3. In the Camera view, make sure that you are in Open GL mode and select the light bulb zones of the two lampposts. Press [Shift]+Click as you select the zones to create a multi-selection.
4. Press the default keyboard shortcut [F9] (Windows) or [⌘]+[F9] (Mac OS X) to Create Drawing from Drawing Selection.
5. Name your new layer **`light_matte`**.
6. In the Timeline view toolbar, use the Add Layers button to create a new glow effect layer.
7. In the Timeline view, connect the light_matte layer under the glow layer and customize the effect.
8. Verify the result in the Camera view, using the Render mode.

You can make a multi-selection using the [Shift] key while clicking on your objects in the Camera and Drawing view using the Select tool.

Making it Shine in the Night

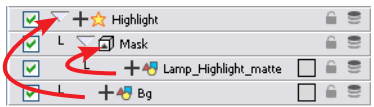
Adding a halo around the lampposts and a highlight on the statue is an easy and effective way to enhance the glow effect and integrate all of the elements in the scene.



1. In the Timeline view toolbar, use the Add Layers button to create a new drawing layer.
2. Name this new layer **`Lamp_Highlight_matte`**.
3. In the Timeline view, select the first cell of the new layer.
4. In the Tools toolbar, select the Ellipse tool.
5. In the Tool Properties view, enable the Auto Fill mode.
6. In the Colour view, select any colour.
7. In the Camera view, trace a large ellipse around the lamp area. This shape will become your halo.
8. In the Timeline view, click on the Add Layers button and select **Effect > Highlight**.

Refer to the Animate User Guide to learn more about the different effects available in Toon Boom Animate.

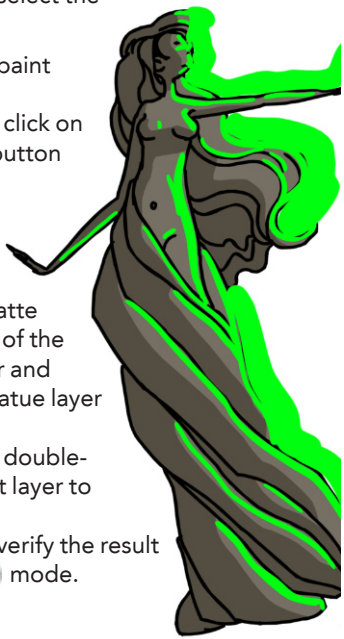
The Highlight layer, unlike the Glow effect, will only affect particular layers. This means you need to connect the mask as well as the layer it will affect. In this case, it will be the Bg layer.



1. In the Timeline view, click and drag the Lamp_Highlight_matte layer on to the Mask of the Highlight effect layer and click and drag the bg layer onto the Highlight.
2. As with the Glow effects, in the Timeline view, double-click on the Highlight layer to customize it.
3. In the Camera view, verify the result using the Render mode.

The statue highlight effect will follow similar steps.

1. In the Timeline view toolbar, use the Add Layers button to create a new drawing layer.
2. Name this new layer **`Statue_Highlight_matte`**.
3. In the Timeline view, select the first cell of the new layer.
4. In the Tools toolbar, select the Brush tool.
5. In the Camera view, paint the highlight zones.
6. In the Timeline view, click on the Add Layers button and select **Effect > Highlight.**
7. In the Timeline view, click and drag the Statue_Highlight_matte layer on to the Mask of the Highlight effect layer and click and drag the Statue layer onto the Highlight.
8. In the Timeline view, double-click on the Highlight layer to customize it.
9. In the Camera view, verify the result using the Render mode.

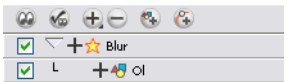


When painting a highlight zone, you do not need to worry about other layers as the highlight effect will only affect the layer you decide to connect into it.

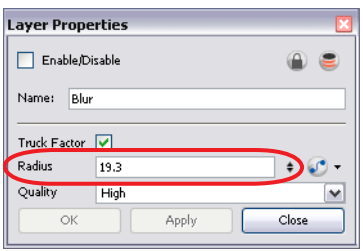
Keeping Your Distance

A good way to increase a depth illusion is by having an overlay which is out-of-focus. In this example we will be hiding behind a broken structure.

1. In the Timeline view toolbar, click on the Add Layers button and select **Effect > Blur**.
2. In the Timeline view, click and drag the Ol layer onto the Blur effect layer.



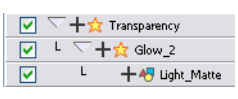
3. In the Timeline view, double click on the Blur layer to customize the Radius value of the effect.

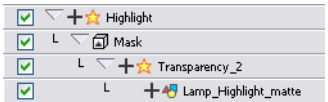


4. In the Camera view, verify the result using the Render mode.

Preparing to Hit the Switch

All these effects can be animated over time. For this example, we will progressively light up the lampposts making their glow, halo and the statue's highlight gradually appear. Now, let us prepare this nice effect.

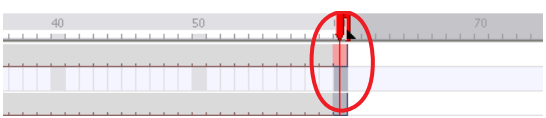




1. In the Timeline view, use the Add Layers button to add three Transparency effect layers.
2. In the Timeline view, connect the lamppost's Glow layer into one of the Transparency layers.
3. Connect the matte shape layers of the two Highlight effects into the two remaining Transparency layers.

With these Transparency layers you will create a fade in effect, making the scene go from lights out to lights on. Now we need to extend the scene so that we can animate the effects.

1. In the Timeline view, make a multi-selection of all of your layers' last cell of the scene using [Shift]+Click.
2. Press [F5] to extend the exposure.

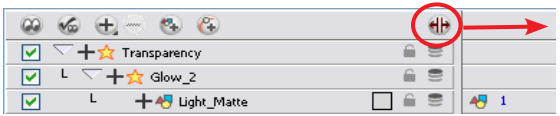


Refer to the Animate User Guide to learn more about keyframes and functions.

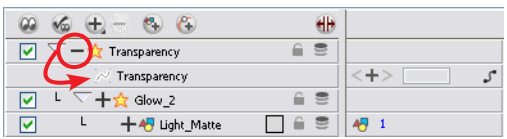
Hitting the Switch

Now is the time to create a function and enter the keyframes that will animate the Transparency effects and gradually light up your scene.

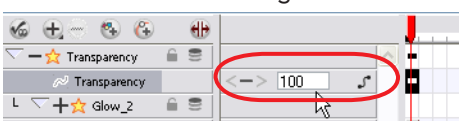
1. In the Timeline view, click on the Expand button to display the Data view.



2. In the Timeline view, click on the Transparency layer Expand + button to display the Transparency's function.

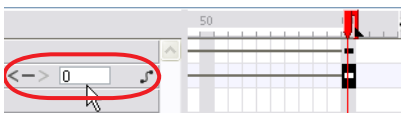


3. Make sure that your timeline marker is on the first cell, click on the Add Keyframe + button and enter the first Transparency value. This keyframe should be set to 100 so that the lights are out.



You can create a hold at the start and end of your scene by adding two more keyframes on your timeline. One of equal value to the first one of your scene and another one of equal value of the one at the end.

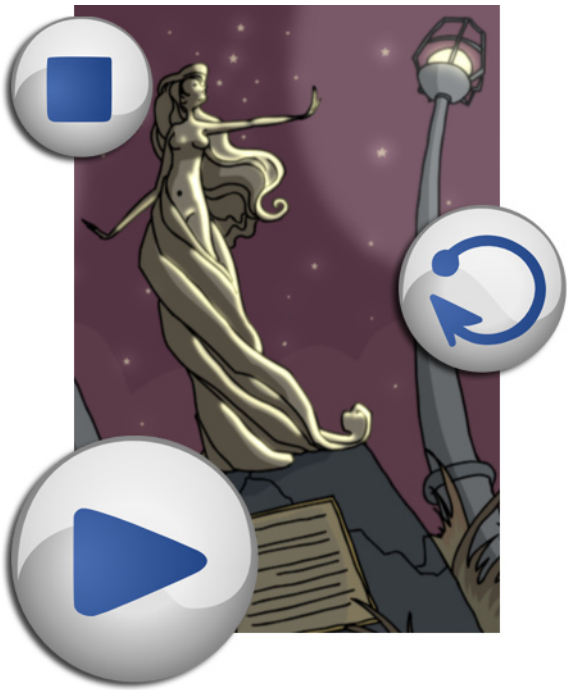
4. Move the timeline marker to the last frame of your scene and press the Add Keyframe + button and enter the last transparency value. This value should be set to 0 (zero) to light up the scene completely.



5. Repeat Step 1 to Step 4 for the other two Transparency layers.

Follow these simple steps to preview your animated effect.

1. In the Playback toolbar, click on the Render and Play button.
   Your frames will be calculated and the Play view will pop up.
2. In the Play view, press on the Play button and enjoy your scene!

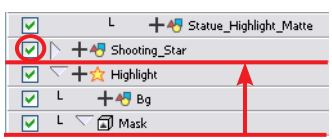


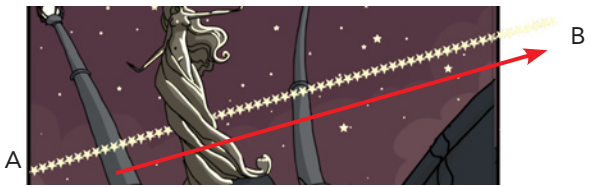
Refer to the Animate User Guide to learn more about the Play view and previewing your scene as well as exporting your scene.

Shooting Star

Now, to make things more interesting, let's add a shooting star flying across the heavens. Use the collapsed layer Shooting_Star which we have provided.

- In the Timeline view, enable the Shooting_Star layer and drag it between the bg and the statue layers.



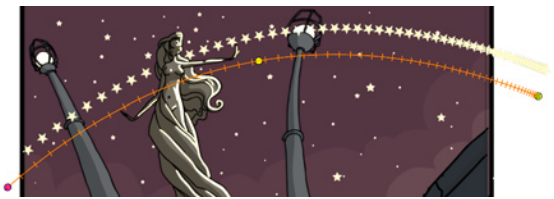


To animate the shooting star:

1. In the Tools toolbar, click on the Animate button and then click on the Transform Tool button.
2. In the Timeline view, click on the first cell of the Shooting_Star layer.
3. In the Camera view, click and drag the shooting star to its first position on the extreme left, outside of the camera frame.
4. In the Timeline view, click on the last cell of the Shooting_Star layer.
5. In the Camera view, click and drag the shooting star across the screen, ending at it's final position.

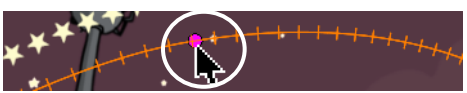
The system will automatically create the motion between the two keyframe positions.

The shooting star now moves at a constant speed along the straight line from point A to point B. To add a curve and a velocity effect, follow these steps.



To add a curve to the animation:

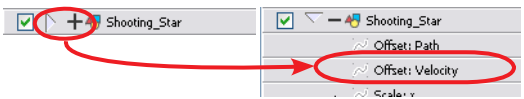
1. In the Timeline view, select the Shooting_Star layer.
2. Select **View > Show > Control** to display the trajectory.
3. In the Camera view, position your cursor over the trajectory and press [P] to add a control point.
4. In the Camera view, click and drag the new control point to create a curve.



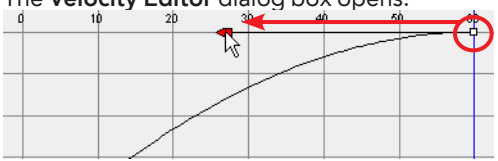
5. In the Coordinate and Control Point view, adjust the Tension and Continuity values to adjust your trajectory's curve.

To add a velocity effect.

1. In the Timeline view, click on the Expand button to display the Data view.
2. In the Timeline view, click on the Expand Arrow and Expand buttons of the Shooting_Star layer to display its functions.



3. In the Timeline view, double-click on the Offset Velocity function of the shooting star layer.
   The **Velocity Editor** dialog box opens.



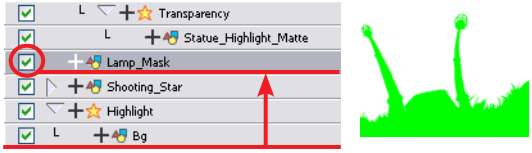
4. In the Velocity Editor dialog box, click on the last keyframe and drag the handle toward the centre to create a velocity curve.

By default, the preferences are set to Motion Keyframes, this means that the system will automatically create the motion between the two keyframes of the shooting star.

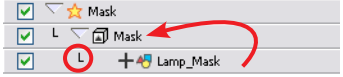
Putting On a Mask

Now the shooting star is all set, only one thing is left to do. Since the lampposts are part of the bg layer, the star cannot pass behind them. For this reason, we will add a mask layer and drawing that will hide the shooting star when it passes in front of the lampposts, giving the illusion of passing behind. For this lesson, a matte drawing of the lampposts is provided for you.

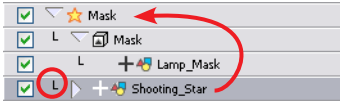
1. In the Timeline view, enable the Lamp_Mask layer and drag it on top of the Shooting_Star layer.



2. In the Timeline view toolbar, click on the Add Layers button and select **Mask**.
3. In the Timeline view, drag the Lamp_Mask layer onto the Mask's matte layer to connect it to it.



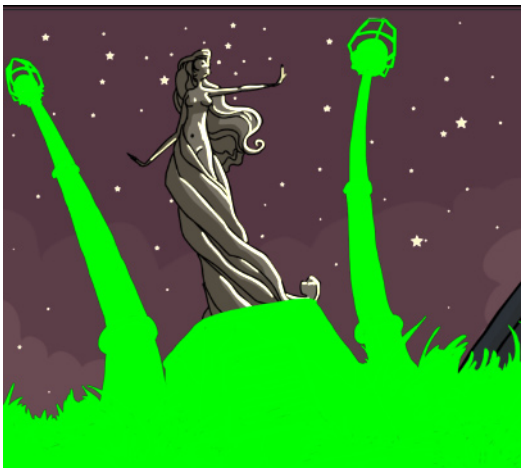
4. In the Timeline view, connect your Shooting_Star layer under the Mask top layer.



The shooting star will now cross the screen behind the two lampposts!

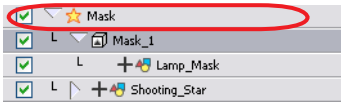
Refer to the Animate User Guide to learn more about Trajectories, Control Points and the Velocity Editor.

Editing the Mask



Once a matte drawing layer is connected to a mask effect the drawing will become invisible in the Camera view, as it will automatically be applied as a mask. If you need to edit your matte drawing after you create your connections in the Timeline view, you can easily make your drawing visible without breaking the connections.

1. In the Timeline view, select the Mask Effect layer.



2. Select **View > Show > Control**.
   This will automatically render your drawing visible in the Camera view. It will be displayed on top of all other layers, making the editing easy to do.

3. In the Tools toolbar, select the drawing tools you need.
4. In the Camera view, edit your matte drawing.
5. Select **View > Show > Control** to hide the matte drawing and return to the normal display of your scene.

Refer to the Animate User Guide to learn more about Mask and Effects.

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ANIMATE

ANIMATION UNLIMITED

Animate Pro Getting Started Guide

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toonboom.com/reg

Why should you register your product?

- Easily recover your activation key 24/7
- Reinstall your product anytime, anywhere
- Receive info on software updates and upgrades
- Subscribe to the Tips and Tricks announcements

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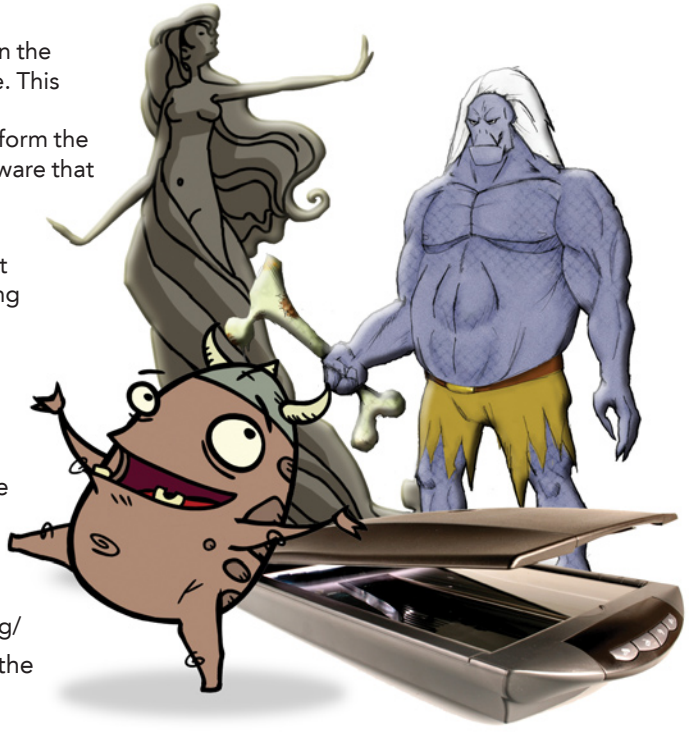
toonboom.com/help/privacy.php

Chapter 1 Introduction



The Toon Boom Animate Pro Starting Guide guide builds on the content included in the Toon Boom Animate Starting Guide. This guide contains supplementary information about Toon Boom Animate Pro's specific features. Together, they form the absolute kick start guide, covering all the basics of this software that you need to get started on your own projects with Animate Pro.

Before starting these lessons, it is highly recommended that you complete the lessons in the Toon Boom Animate Getting Starting Guide first.

Discover the basics of Animate Pro's key features through three new lessons. Use the sample material provided or if you prefer, use your own. The sample material will help you follow the different exercises contained in this guide.

To install the sample material provided, simply follow the installation instructions at the end of this chapter:

- Sample material setup guide

or download them from our website at:

- toonboom.com/products/animatepro/eLearning/

The keyboard shortcuts used in this guide are based on the Adobe®Flash® shortcut set.

Get ready to Animate Pro!

Your Training Outline

Get ready! Let's take a first glance at this Starting Guide's training outline.

Chapter 2 From Sketching Table to Animate Pro

Learn the different ways to add and use textures in your project, an easy way to enhance its look and quality.

Chapter 3 Going 3D

Unleash Animate's power by creating a full 3D decor. Rotate your layers on all axis and get your camera to pivot on a 360 degree trajectory.

Chapter 4 Building a Cut-out Puppet Using the Network View

Learn how you can easily take your cut-out puppet and rig it inside the Network view.

Chapter 5 Compositing

Learn how to use the Network view to enhance the quality of your projects by compositing effects from the effect modules contained in the Module Library view.

Refer to Toon Boom Animate Getting Started Guide to obtain the complete Training Outline.

What's Extra in Animate Pro?

Animate Pro is the professional version of Toon Boom Animate. In Animate Pro you will find many exciting and powerful new tools as well as all the features from Animate, making your life even easier and allowing you to create with style!

These are an highlight of the top features you will find in Animate Pro :

- **Advanced Compositing**
  Using the Network and Module Library views, you can create complex effects and advanced puppet rigging.
- **Line Texture**
  Using the Brush tool, you can sketch and design with textured brush styles. You can even create your own pencil-bank by creating a set of bitmap textures in a third-party software.
- **Advanced Traditional Animation Features**
  Using features such as Multiple Drawing Layers and Annotation Columns, you can complete your hand-drawn animations with ease while feeling at home with tools you are familiar with.
- **Full 3D Rotation**
  You can enable the 3D rotation on your elements and camera to pivot them on all 3 axis, creating a 3D set where you can animate your characters and amazing camera moves.
- **More Effects**
  You can find many more effects in the Module Library, such as the Refract, Glue and Sparkle.
- **Multiple Renders**
  Because of its Network view and node system, Animate Pro allows you to render out different resolution, formats and portions of your scenes simultaneously.

Refer to Toon Boom Animate Getting Started Guide to learn more about Interface Highlights.

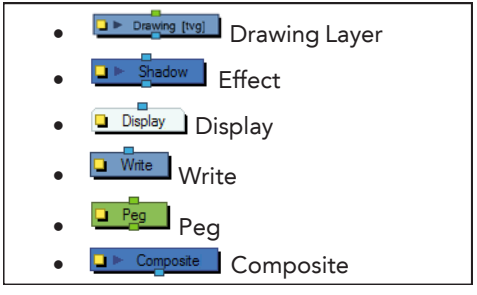
Network View Legend

The Network view is the main view used to composite the scene's components, special effects and rig cut-out characters.

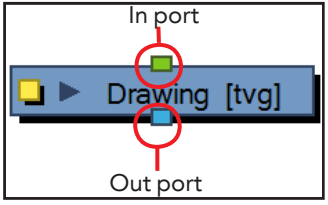
Refer to the following legend to learn about the Network view.

Note: The numbers in this legend correspond to the numbers in the Network view on the following page.

1. Network Main View:
   This is where you drag in, organize and connect the different modules in your scene.
2. Main Modules:



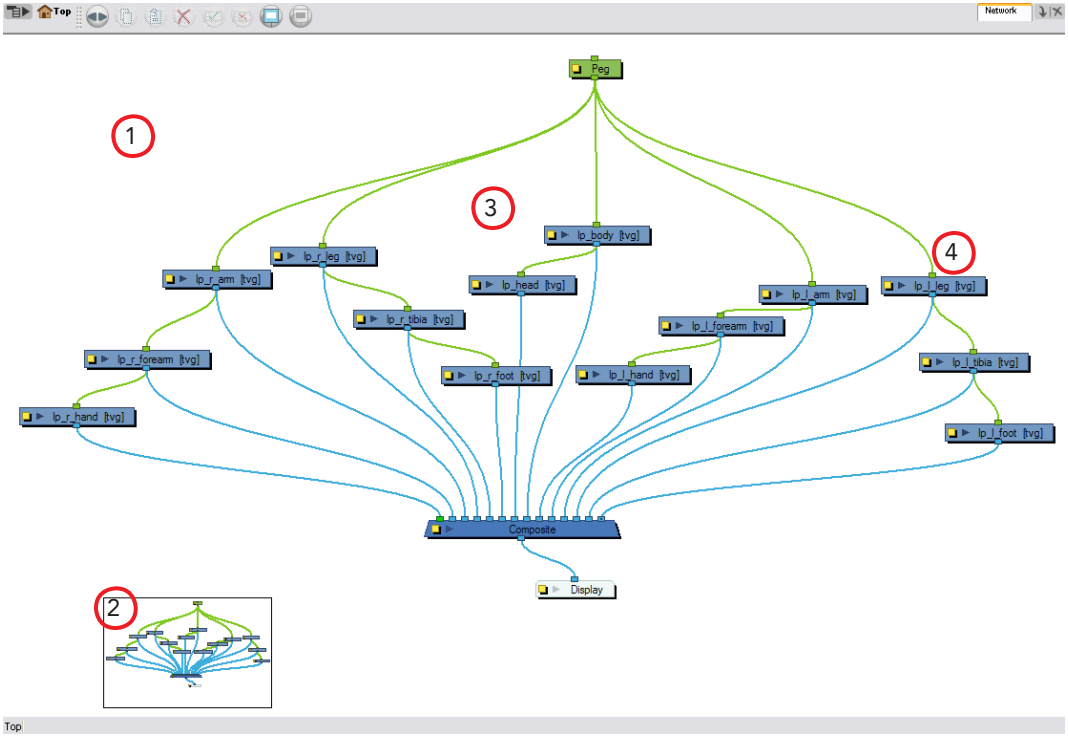
3. Module In and Out Ports:



   The input and output ports are used to connect modules. Simply click and drag one port to another port and a connection is created.
4. Navigator:
   This is a smaller version of your Network view. Use this to zoom in, zoom out and pan to navigate through your network.

Note that because they are created using the Timeline view, effects previously created using Animate will be displayed as orange group modules when in Animate Pro. This way it is easy to quickly identify them.

Refer to Toon Boom Animate User Guide to learn more about the Network view.


Top
Network
Peg
1
3
4
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lp_r_arm [tvg]
lp_body [tvg]
lp_head [tvg]
lp_l_arm [tvg]
lp_l_leg [tvg]
lp_r_tibia [tvg]
lp_l_forearm [tvg]
lp_r_foream [tvg]
lp_r_foot [tvg]
lp_l_hand [tvg]
lp_l_tibia [tvg]
lp_r_hand [tvg]
lp_l_foot [tvg]
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Sample material setup guide

Templates and sample files will be required for some of the lessons in the Getting Started Guide. You must first install them, then follow steps to use them in your project.

Step-by-step installation

1. Go to the following web page: toonboom.com/products/animatepro/eLearning/
2. In the Tutorials section download the Sample Material package.
3. Once the package is downloaded, double-click on it to launch it.
4. Follow the installer's instructions.

To use the templates

To use the templates:

1. Launch Toon Boom Animate Pro.
2. Create a new blank project.
3. In the Library view, click on one of the following folders to view the sample material content:
   - Templates
   - Templates > Undone_example_Sample_material
   - Templates > Completed_examples
4. Select a template from the right-hand side of the Library view.
5. Click and drag that template to the left-hand side of the Timeline view and drop it where the layers are ordered. You can also drop it directly in the Camera view.

   The template now appears in both the Timeline and Camera views and is ready to be animated!

Files in the Library view

Here are the types of files you will find in the templates folder:

- Undone_example_Sample_material
  Prepared scenes to be completed during lessons in the Getting Started Guide.
- Completed_examples
  The resulting scene files for completed lessons in the Getting Started Guide.
- Templates
  Various elements that can be used to completed some of the lessons in the Getting Started Guide.

Extra sample material

You will need to browse and import some extra files from the following location:

- **Mac**: /Applications/Toon Boom Animate Pro 2/Templates/Samples
- **Windows XP**: C:\Documents and Settings\All Users\Documents\Toon Boom Animation\Toon Boom Animate Pro 2\Templates\Samples
- **Windows Vista and 7**: C:\Users\Public\Documents\Toon Boom Animation\Toon Boom Animate Pro 2\Templates\Samples

Files for Animate chapters 3, 5 and 11:

- background_tv.psd
- SuperHero_Soundtracks (3 sound clips)
- Textures (16 examples)

Files for Animate Pro chapter 2:

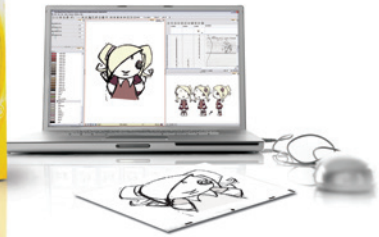
- Multi-layerd_Monster.psd
- monster_drawing.png

toonboom.com/pencilcheckpro/

Capture the motion

Developed for the most prestigious and demanding studios, Pencil Check Pro provides an extensive feature set designed around a user friendly interface. Pencil Check Pro is the classic animators' best friend, sitting next to the animation table for fast and accurate line tests.

Create and preview the line test movie with synchronized sound, in real-time
Fill the exposure sheet using industry standard tools and the audio waveform display
Annotate and draw directly in the exposure sheet column using the pen tool
Animate camera motion with pencil drawing composited on top of a background



TOONBOOM

Chapter 2 From Sketching Table to Animate Pro

Are you a pencil and paper lover? Animate Pro lets you scan and import your sketches, draw directly in the application using textured lines, bring in your colourful illustrations and keep your bitmap colours as well as fully vectorizing your cleaned up drawings.

You can play around with textures, vector and bitmap graphics to get the high quality look you are wishing for.

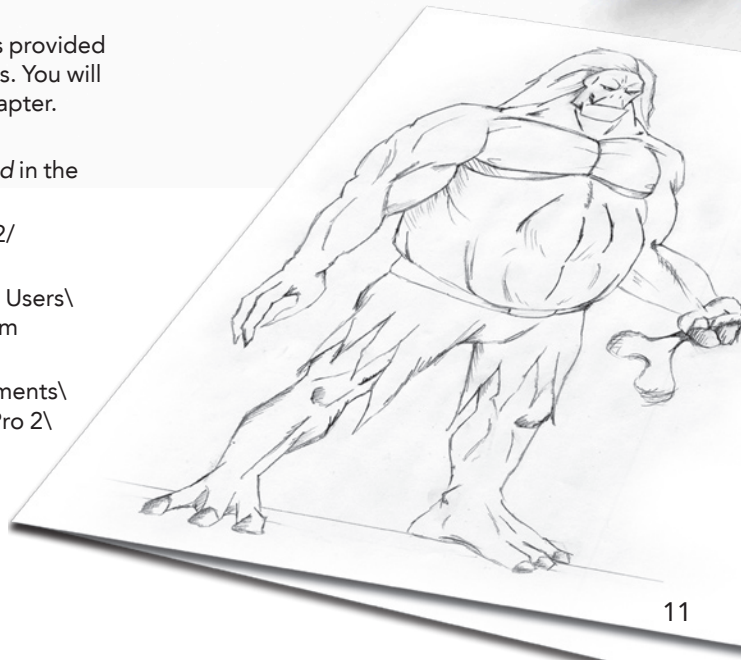
To go through this lesson, you can use the bitmap images provided in the sample material package or scan your own sketches. You will also find a full page illustration to scan included in this chapter.

In the provided sample material, you can find the *monster_drawing.png* and the *Multi-layered_Monster.psd* in the following folder:

- **Mac**: /Applications/Toon Boom Animate Pro 2/ Templates/Samples
- **Windows XP**: C:\Documents and Settings\All Users\ Documents\Toon Boom Animation\Toon Boom Animate Pro 2\Templates\Samples
- **Windows Vista and 7**: C:\Users\Public\Documents\ Toon Boom Animation\Toon Boom Animate Pro 2\ Templates\Samples

The Topics are:

- Monster Scanning
- Scanning Process
- Pencils and Crayons in Animate Pro
- Colours as Textures



Monster Scanning

One of the first techniques you can use to get your drawings into Animate Pro is to scan them using a TWAIN device. You can adjust the import settings to match the style you are looking for.

Follow these main steps to get your sketches into Animate Pro:

- Make sure a TWAIN device is installed on your computer and working correctly.
- In Animate Pro, create a new project or open the scene where you want to import your artwork.
- Scan your drawings.
- Set the vectorization parameters.
- Import your images.

You can scan the monster drawing included on the following page and follow the next steps in this lesson. (We have also included a digital version of this image in the sample material package). Or you can scan one of your own designs, try to find a drawing with a few rough lines where you see the pencil texture.

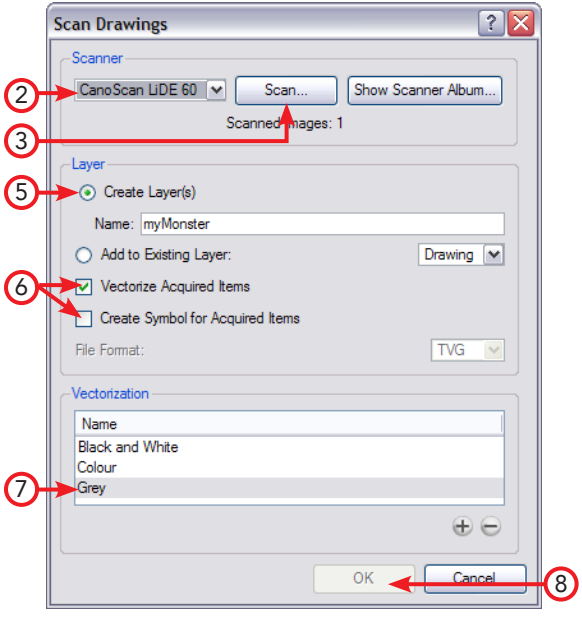
Once a TWAIN scanner is installed on your computer, Animate Pro will detect it automatically and add it to the TWAIN Source list.

Scanning Process

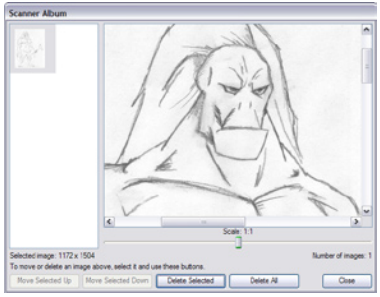
To scan your drawings, make sure your scanner is connected and you are ready to go!

To scan your drawings:

1. In the Top Menu, select **File > Import > From Scanner**.
   The **Scan Drawings** dialog box opens.
2. In the Scanner section, select your scanner from the list
3. Click on the Scan button to begin the scanning process using the scanner's interface.



Refer to the Toon Boom Animate User Guide to learn how to create your own vectorization parameter presets.



4. Once the scan is completed, the Scanner Album opens to let you organize the scanned images.
5. In the Scan Drawings window, enable the Create Layer(s) option and name your new layer in the Name field.
6. Make sure the Vectorize Imported Items option is enabled. You can also disable the Create Symbol for the Imported Items option if you do not want the new layer to be encapsulated in a Symbol.
7. To keep the pencil line's texture, select the Grey default vectorization parameters.
8. Click on the OK button and let the system import and vectorize your images.

This is the greyscale vectorization result in Animate Pro.

In the Scan Drawings interface, you can click on the Show Scanner Album button to return to the Scanner Album window.

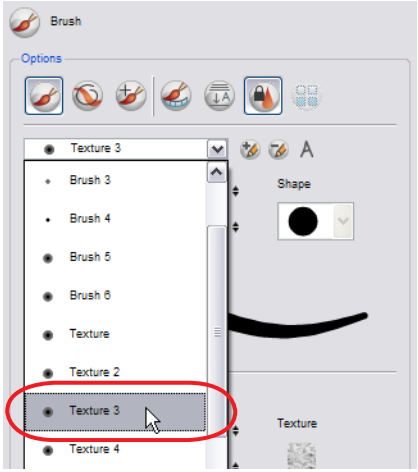
Pencils and Crayons in Animate Pro

You do not necessarily need a scanner in Animate Pro to play with texture. In fact, you can create your own set of textured pens and draw with them directly in the application.

These pens can be used to either correct imported sketches or to draw artwork from scratch, straight in the Camera view.

Animate Pro supplies you with a series of default texture brushes or you can create your own in a third-party software and then import them in the Tool Properties view.

The only requirement is that the image used as your texture must be in either PSD or TGA file format.



To use a textured brush:

1. In the Tools toolbar, select the Brush tool.
2. In the Tool Properties View, display the Brush drop-down list and select one of the default textured brushes.
3. In the Camera view, start drawing.

When you import a bitmap image as a pen texture, the colour in the image is not used. The Brush tool will use the colour selected in the Colour view.

If you have a texture such as this and you would like to use it to draw in Animate Pro, you can simply import it into your brush list and use it as a default texture.

To import a texture in your brush list:

1. In the Tools toolbar, select the Brush tool.
2. In the Tool Properties view, click on the Add Pen button.
3. Check the Enable Texture option.
4. Click on the Texture button to browse and select the desired bitmap image. The image has to be a PSD or a TGA file format.
5. In the Camera view, start drawing.
6. In the Tool Properties view, adjust the opacity, hardness and texture size parameters.

In the Sample material, you can use the monster structure template provided to trace your own character over or you can sketch your own.

In the Eraser Tool Properties view, you can enable the Use Blur Parameters option to create a feather when erasing a textured line instead of having a straight cut.

Colours as Textures

If you created illustrations and drawing pieces in a third-party software such as Adobe® Photoshop®, you have two options available when you import these images in Animate Pro. You can either import them as bitmap images or vectorize them using the Colour as Texture option.

If your image is to be used as a background or an overlay, there is no need to vectorize them. Although, if you are planning on building a photo puppet or using Animate Pro's drawing tools to modify the imported artwork, vectorizing your images using the Colour as Texture parameters will be quite useful.

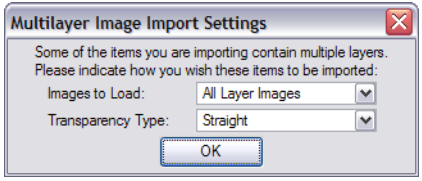
Note: your image will remain a bitmap, but it will be contained in a vector frame. This way, you can modify the contours using the Contour Editor tool or draw over with the Brush tool or even erase areas.

In the Sample Material package, you can find a complete image of the same monster character as well as a multi-layered PSD file containing its body divided into five main pieces. You can use those to try out the colour vectorization.

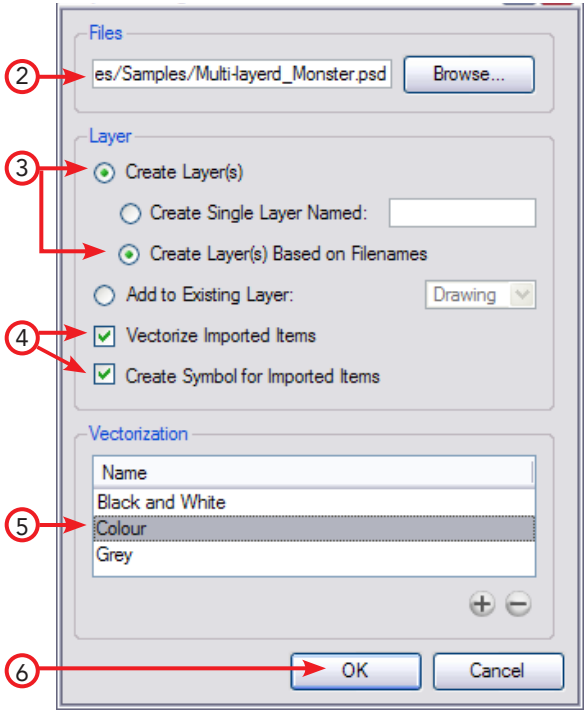
Once the pieces are imported, you can move on to the next lesson to learn how you can connect them.

When creating bitmap pieces for a puppet in a third-party software, it is a good idea to create a feathered edge on the articulations. This way, when you animate the puppet, the joints look much neater.

1. In the top menu, select **File > Import > Images**.
2. In the Import Drawings dialog box, click on the Browse button and select the images to import.
3. Enable the Create Layer(s) and the Create Layer(s) Based on Filename options to make a new layer with the same name as your file.
4. Make sure the Vectorize Imported Items and the Create Symbol for Imported Items options are enabled.
5. In the Vectorization area, select the Colour option.
6. Click on the OK button.
7. If your image is a multi-layer PSD file, the **Multilayer Image Import Settings** dialog box opens.



8. Select the All Layer Images option and set the Transparency type to match the source file.
9. Click on the OK button and let the system import and vectorize your images.



The Transparency type of the imported image is related to how the alpha channel in the source file was pre-multiplied with the background. Refer to the Toon Boom Animate User Guide to learn more about this.

toonboom.com/storyboardpro/

The power of digital storyboarding

Toon Boom Storyboard Pro is a system for visual storytelling, perfectly suited to traditional and paperless methods. Truly completing the production pipeline, Storyboard Pro helps you take an idea and translate it into a visual story that will become a complete production, whether animated or live-action.

Work like you always have, but faster and smarter while maximizing the benefits of working digitally

Create instant animatics as you work, in the same time it takes to storyboard

Play back your storyboard in sync with audio

Enjoy interactive review and faster approval process

TOONBOOM

Chapter 3 Going 3D

Toon Boom's technology has always been recognized for its Multiplane feature. Now you can take this attribute one step further by going 3D!

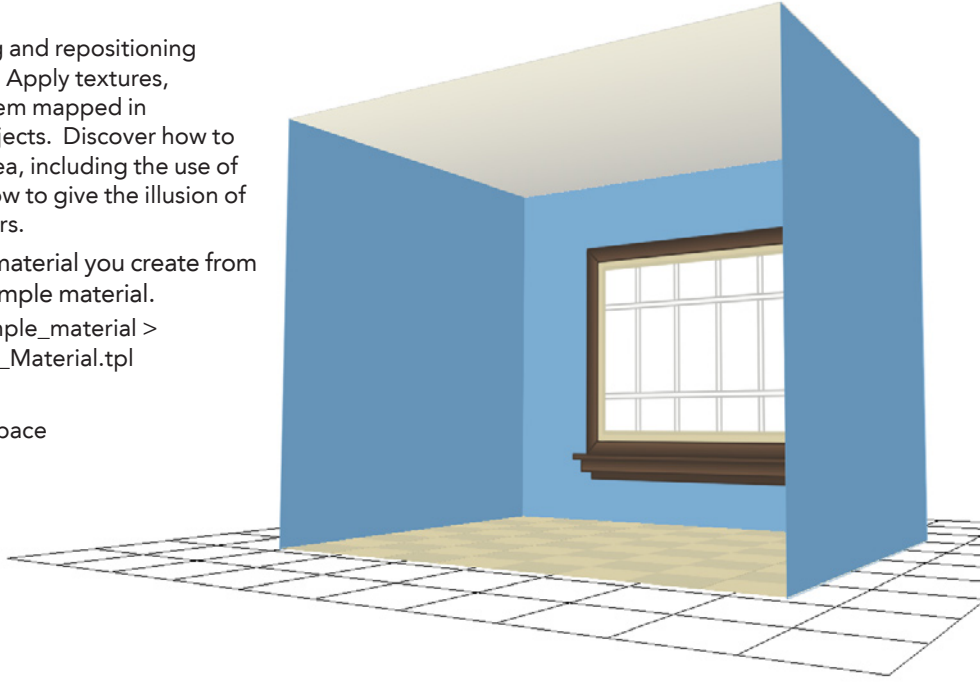
Learn how to build sets by rotating and repositioning planes in three dimensional space. Apply textures, patterns and gradients and see them mapped in perspective onto your drawing objects. Discover how to use a camera to explore the 3D area, including the use of fully rotational pivots, as well as how to give the illusion of 3D by panning a multi-plane's layers.

You can practice this chapter on material you create from scratch or you can also use the sample material.

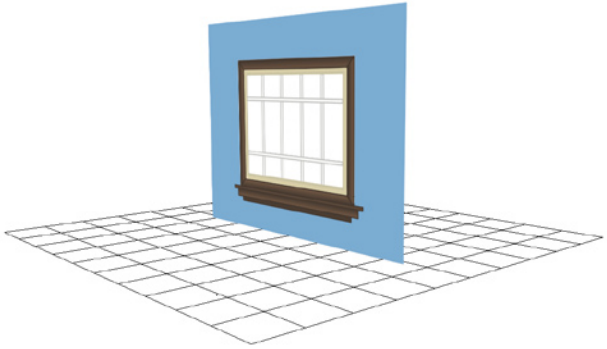
- Undone_example_Sample_material > Chapter3PRO_Sample_Material.tpl

The topics are:

- Setting Up Your Workspace
- Building the Structure
- Filming Your Set
- Adding an Outdoor Decor



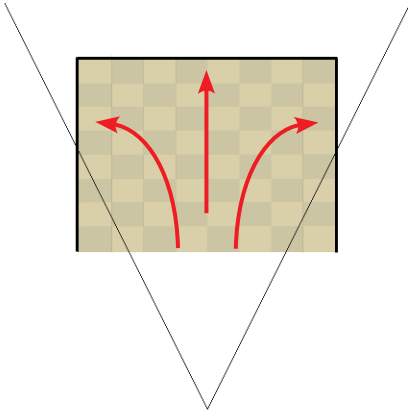
Setting Up Your Workspace



You might be concerned that thinking in a 3D mindset will be complicated. Never fear! In this lesson, we will take you step by step on how to construct in and move through this new frontier.

When you open the sample scene and look at it in the Perspective view, it will look like the picture above, with all the layers flattened on the same x, y, z planes.

In the Timeline view, take a moment to examine the layers and to get an idea of what kind of movements you might need to make to separate them.



It will occur to you that the floor, ceiling, left and right walls need to rotate outwards at a 90 degree angle from the Back_Wall.

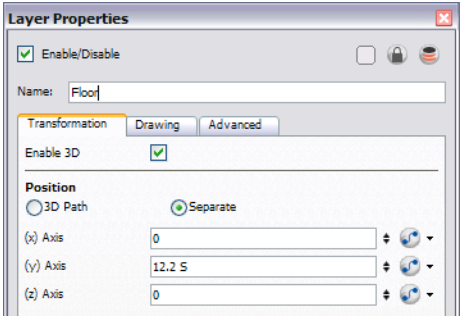
When you position elements in the 3D space, it is important to remember that your drawings are still 2D images. If you rotate the camera around them, they will still look like flat layers.

To perform these operations, you will need the following views:

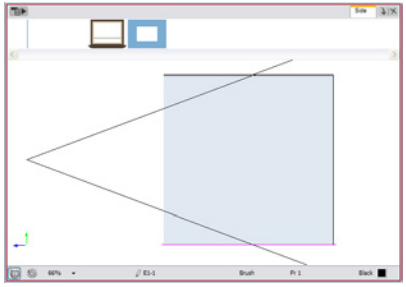
- Layer Properties View
- Perspective View
- Top View
- Side View

▶ In the top menu, select **Window > the desired window**.

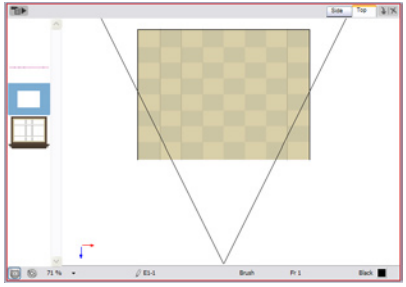
In the Layers Properties view, you will be able to set the position coordinates and enable the 3D movements.



The Side view allows you to see your scene's elements from the side and move them on the Y-axis and Z-axis.

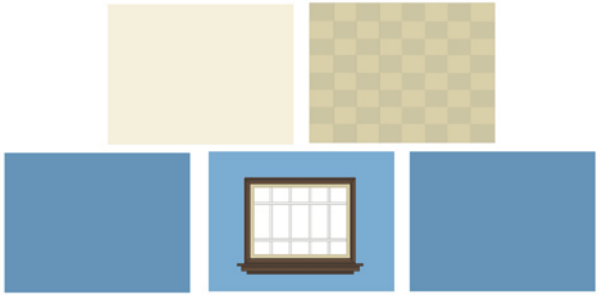


The Top view allows you to see your scene's elements from the top and move them on the X-axis and Z-axis.



Animate Pro allows you to build very complex 3D sets. You could build an entire fortress or a spaceship as long as you plan out your different walls and pieces and reuse them in your different scenes.

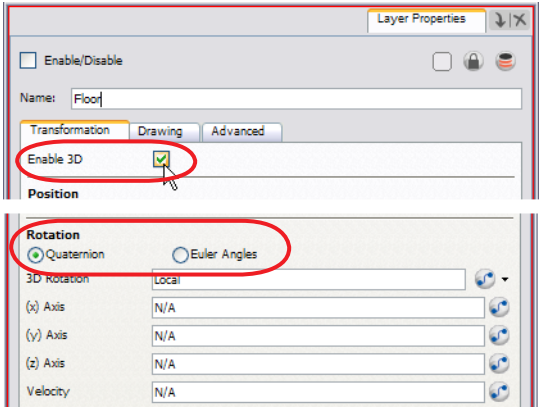
Building the Structure



At this point, you should have all the layers necessary to build your 3D set. In this case, we have three walls, a ceiling and a floor. Later on, we will also include an outdoor background to see through the window.

By default, the 3D motions are disabled on your drawing layers, this prevents you from accidentally rotating them when you need your drawings to stay perfectly flat and aligned with the camera. So, when you want to rotate layers in the 3D space, you need to enable the 3D motions.

To enable the 3D motions:



1. In the Timeline view, select the layer you want to enable the 3D motion for.
2. In the Layer Properties view, check the Enable 3D option.

You will notice a series of changes in the Layer Properties view, mainly regarding the Rotation section. You now have the Quaternion and the Euler Angles options.

If you are unsure of what the width and height of your drawings should be, you can always go back in the Drawing view after the setup is done and correct your drawing to match the layout better.

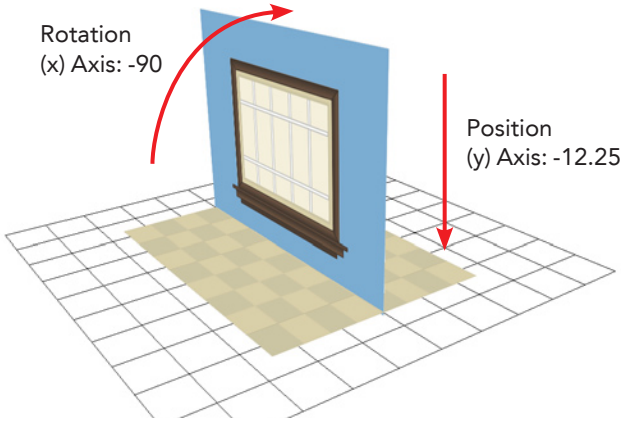
There is a substantial difference between the Quaternion and Euler Angles options. They will not be covered in this guide. Refer to the Animate User Guide to learn more about those.

To give you a basic idea, you will mainly use the Quaternion rotation when you want to create a smooth trajectory over the three axes, such as a camera move, and you will use the Euler Angles when you have a precise position in mind for a stationary object such as a wall.

To build our room structure, we will use the Euler Angles rotation.

To position the floor:

1. In the Timeline view, select the Floor layer.
2. In the Layer Properties view, check the Enable 3D option.
3. In the Rotation section, enable the Euler Angles option.
4. In the (x) Axis field, type -90 to give the backward rotation to the floor.
5. In the Position section, enable the Separate option to control the three axis separately.
6. In the (y) Axis field, type -12.25 to send the floor to the ground.



Repeat the same process for the back wall, ceiling and side walls.

Back Wall: Position (z) Axis = -4.55

Left Side Wall: Position (x) Axis = -12.3, (z) Axis = -1.55, Rotation (y) Axis = -90

Right Side Wall: Position (x) Axis = 12.3, (z) Axis = -1.55, Rotation (y) Axis = 90

Ceiling: Position (y) Axis = 12.25, Rotation (x) Axis = 90

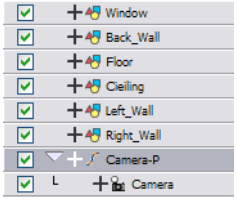
When you build a 3D room, make the walls wider or higher than they need to be for your drawings to intersect in the corner and avoid having small gaps.

Filming Your Set

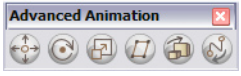
Now is the really exciting part: adding a camera and filming on a 3D trajectory!

To do so, you will need to add a Peg to your camera and set the trajectory, the same as the camera rail used in live-action shooting.

To animate a 3D camera move:



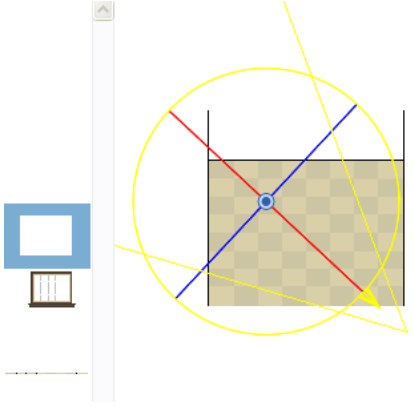
1. In the top menu, select **Insert > Camera**.
2. In the Timeline view, select the Camera layer.
3. In the Timeline toolbar, click on the Add Peg button to parent a peg layer to your camera.
4. Select the Camera Peg layer.
5. In the Layer Properties view, check the Enable 3D option.
6. In the Rotation section, enable the Quaternion option.



7. In the top menu, select **Window > Toolbars > Advanced Animation** to display the Advanced Animation toolbar.

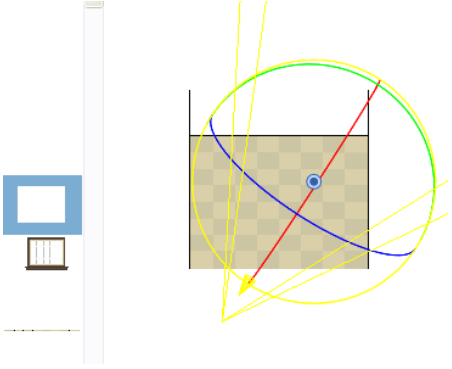
To animate a camera motion, selecting the Quaternion rotation is your best choice if you want to have a very smooth and well interpolated trajectory.

8. In the Timeline view, go to the first frame.
9. In the Tools toolbar, enable the Animate Mode.
10. In the Advanced Animation toolbar, select the Rotate tool or the Translate tool.



11. In the Camera, Top and Side views, set your camera's first position.

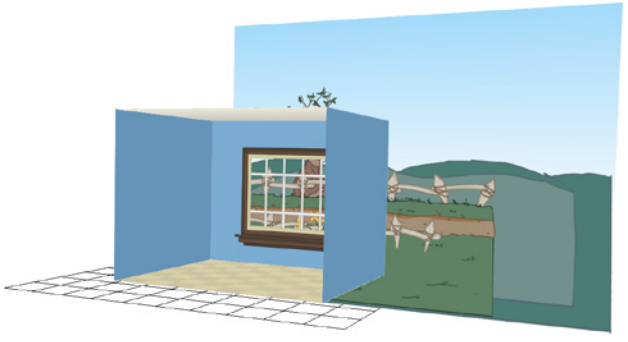
12. In the Timeline view, go to the last frame.

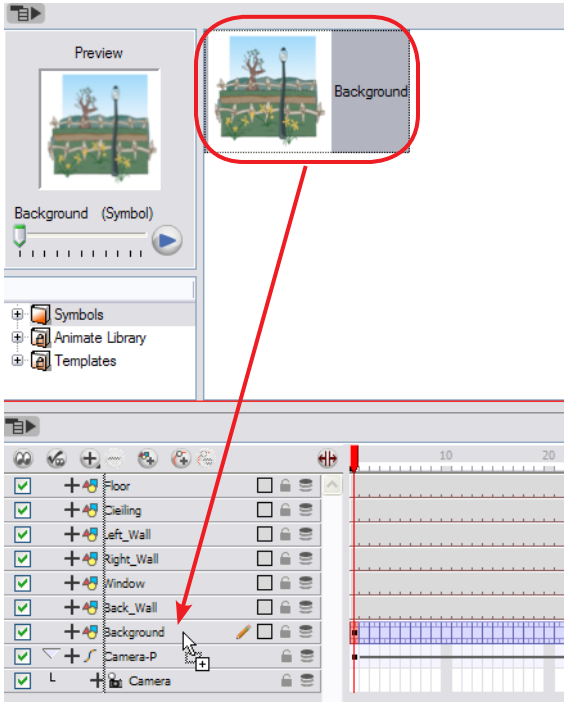


13. In the Camera, Top and Side views, set your camera's last position.
14. If you do not have interpolation between your frames, select the camera's first keyframe and use the Set Motion Keyframe shortcut [Ctrl] + [K] (Windows) or [⌘] + [K] (Mac OS X).

The Advanced Animation toolbar is useful to set your camera since it allows you to control one movement type at a time. You can use the Rotate tool to set your angle, then the Translate tool to set your position.

Adding an Outdoor Decor





To enhance the look of your scene, include what you previously learned about the multiplane.

When your camera is moving, having a multiplane background outside the window will add that little something special to your scene.

You will find in the Symbol library of your sample scene a multiplane background that you can import in your Timeline view's left side.

Encapsulating your multiplane background in a Symbol is a great idea for keeping your Timeline view clear and organized. This way, you only get one layer instead of several ones added to your scene.

1. In the Playback toolbar, click on the Play button to playback your scene.
2. Adjust your camera move to get the look you want.

You can start adding more elements to your scene such as props in the room or effects on your layers.

Once you are comfortable with the 3D scene setup, you can start building houses, buildings and beyond!

Refer to the Animate User Guide to learn more about adding props and other elements to your scene as well as locking some layers to the camera.

toonboom.com/expertcorner/

Experts Speak Up

Check out Toon Boom's Expert Corner, a section dedicated to customers using Toon Boom's professional products, including Storyboard Pro, Animate Pro and Harmony.

In addition to Cartoon Network, you can listen to interviews with Fwak! Animation, House of Cool, Mark Simon and Sean Petrilak. Hear it from the pros and see how they maximize the use of our leading-edge technology!

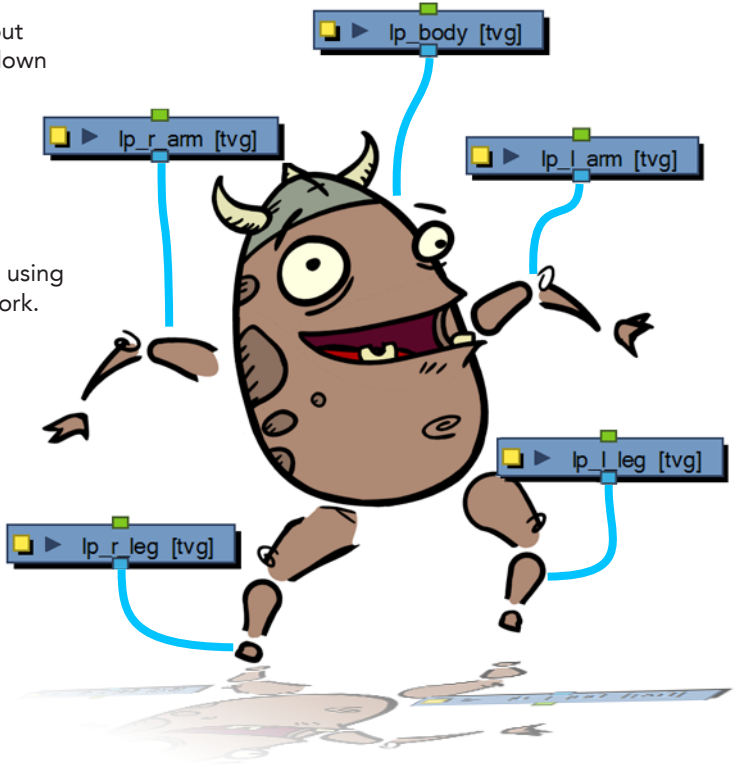
Chapter 4 Building a Cut-out Puppet Using the Network View

In Toon Boom Animate Pro you will find all the tools, features and views you ever wished for to build cut-out puppets and animate them. A wide variety of breakdown and rigging techniques are available since Animate Pro mixes the most common and popular concepts.

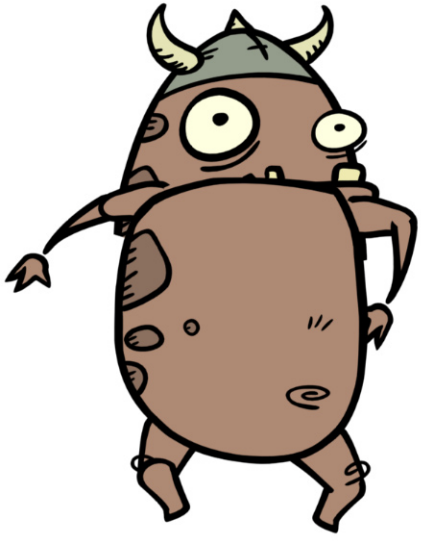
Before starting this lesson, you should complete Chapter 8: Building a Cut-out Puppet in the Toon Boom Animate Getting Started Guide. You can either do the rigging following the Animate method, using the timeline, or the Animate Pro one, using the network. To use the network, read the following topics:

- Ordering the Puppet's Layers
- Setting the Pivots
- Connecting to a Composite Module
- Creating Hierarchies
- Ordering Layer Hierarchy
- Storing the Puppet in the Library

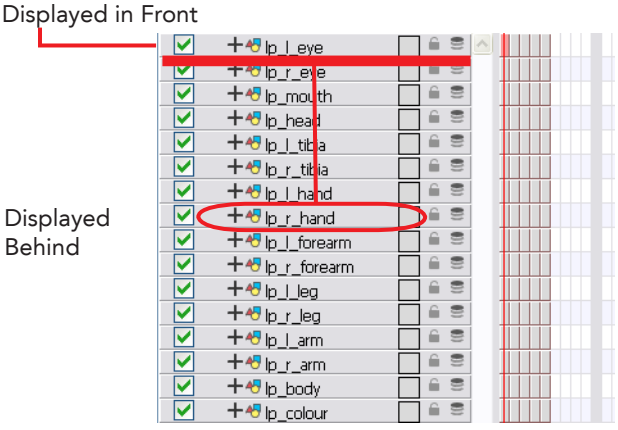
To follow these topics you can also use the bitmap puppet monster you imported while completing Chapter 2: From Sketching Table to Animate Pro.



Ordering the Puppet's Layers



It is possible at this point that your character's pieces show up in the wrong order. There are two ways to fix this.

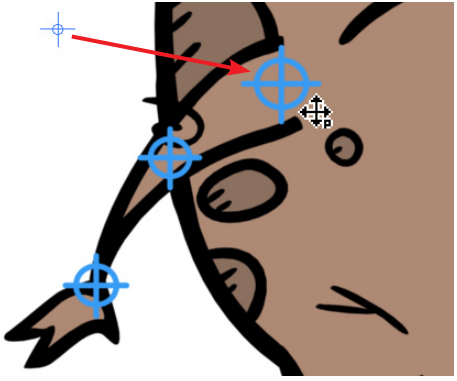


To reorder your layers drag them to a higher or lower level in the Timeline view. The top layer is displayed in front of the others and the bottom one is displayed behind.

1. In the Timeline view, drag the layer to reorder it and drop it inbetween the other layers.
   Note: If you drop it on a layer, it will create a parent hierarchy, so make sure to drop it inbetween layers.

If you select a layer and reposition it, its child layers will follow. There is no need to select all the layers.

Setting the Pivots



If you want your puppet's pieces to rotate properly, you need to set the pivot points. Even the eyes and mouth require you to set their pivot.

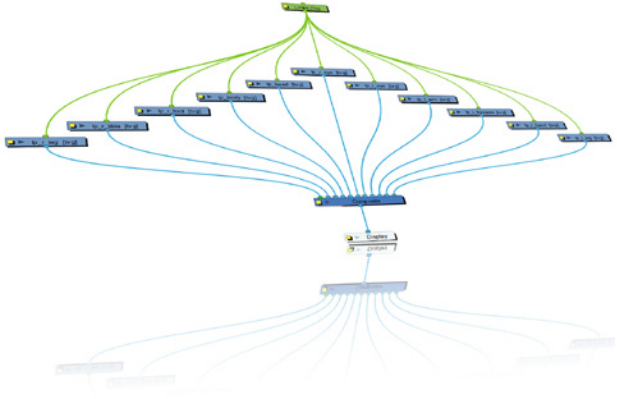
Do the following steps for each layer in the Timeline view.

To set the pivots for the Body parts:

1. In the Tools toolbar, select the Pivot tool.
2. In the Timeline view, select the cell you want to set the pivot for.
3. In the Camera view, click where you want the pivot to be. You can also drag the pivot marker to the desired location.
4. In the Timeline view, select the cell where you want to set the new pivot.
5. In the Camera view move the pivot to the desired position.

For more information about pivots, refer to the Toon Boom Animate User Guide.

Connecting to a Composite Module



A composite module takes all the different parts of your puppet and combines them into one single image. This way, you can create effects and complete your scene with ease.

If you do not already have a Composite module in your Network view, do the following:

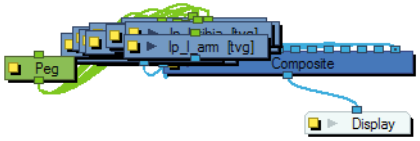
1. In the Network view, use the default keyboard shortcut [Ctrl]+[H] to add a Composite module.
2. In the Timeline view's left side, select all of your layers, using the [Shift] key.
3. Right-click (Windows) or [Ctrl]+ click (Mac OS X) and select **Connect to Composite>** select your Composite module from the list.

All of the drawing modules are now connected to a Composite. The next step is to add a Master Peg to gather up all the pieces to be able to control your puppet.

To add a master peg:

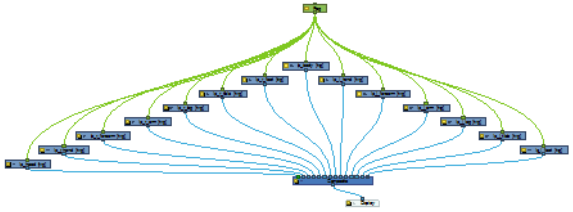
1. In the Network view, add a Peg module using the default keyboard shortcut [Ctrl]+[P] (Windows) or [⌘]+[P] (Mac OS X).
2. In the Timeline view, make a multiple selection of all your layers using the [Shift] key and drag the selection on the Peg layer.

Refer to the Toon Boom Animate User Guide to learn more about module types and the Module Library.

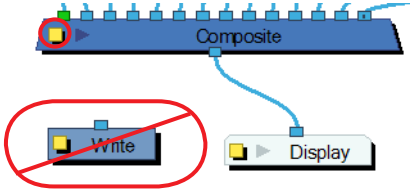


The Network view might appear chaotic and tangled. You can use the Scripting toolbar to untangle your modules.

1. Select **Windows > Toolbars > Scripting** to display the Scripting toolbar.
2. In the Network view, use the default keyboard shortcut [Ctrl]+[A] (Windows) or [⌘]+[A] (Mac OS X) to select all the modules.
3. In the Scripting toolbar, click on the Order Network Down button.
4. You can use the default values and click OK to untangle your layers.



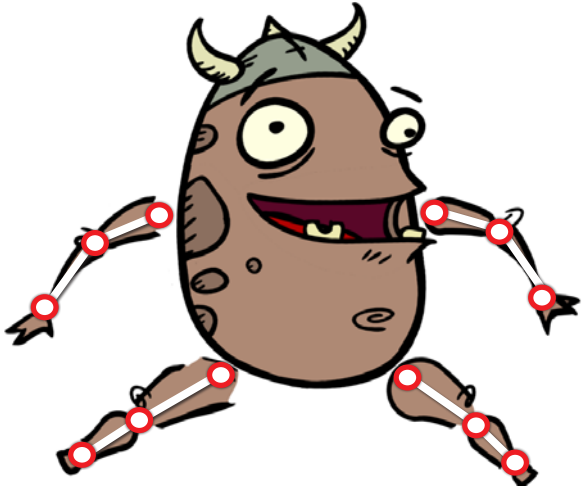
The basic rigging is almost done, these final few steps will make sure you optimize your puppet.



1. In the Network view, click on the Composite's Properties button.
2. In the editor, enable the Pass Through option and click on the Close button. This allows your character's parts to move on the Z-axis and interact with other characters and manipulate props with ease.
3. If you do not already have one, add a Display module in the Network view by dragging one from the Module Library and connect the Composite's bottom port to the Display's top port.
4. If you have a Write module in your network, select it and delete it using the default keyboard shortcut [Delete].

It is important to delete the Write module when building a cut-out puppet. A Write module is used to render portions of your network. If you have two characters in a scene, their render would overwrite the scene's one.

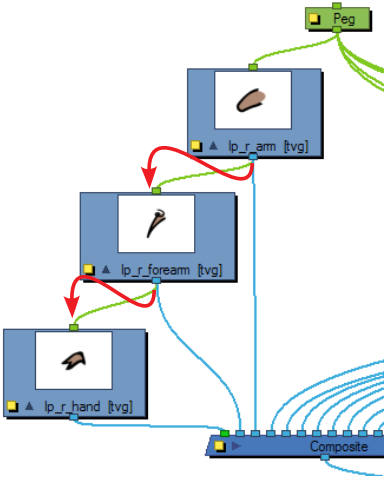
Creating Hierarchies



Animate Pro lets you extend your rigging techniques beyond normal boundaries and set new standards. You can create hierarchies by creating a linked structure between them.

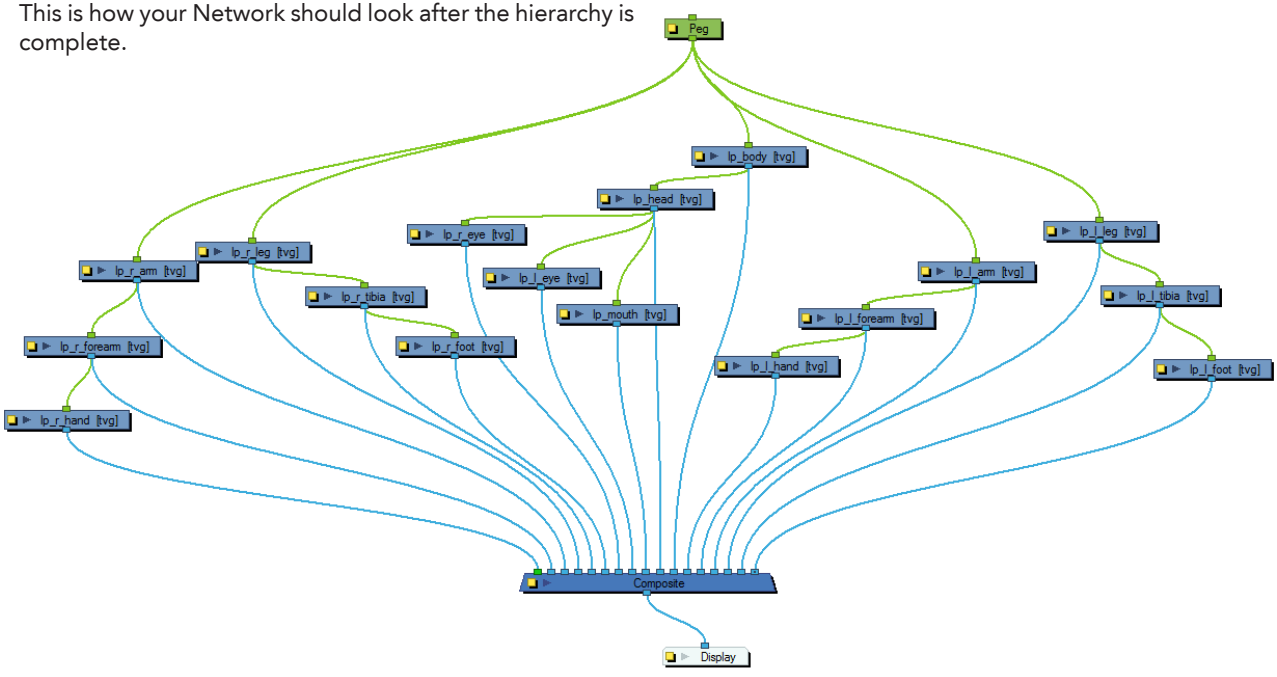
To create a hierarchy:

1. Starting from your basic rigging, simply click and drag the bottom port of the parent piece's module (arm) and drag the connection to the top port of the child piece's module (forearm).
2. Then, connect this piece (forearm) on to the other child piece (hand).

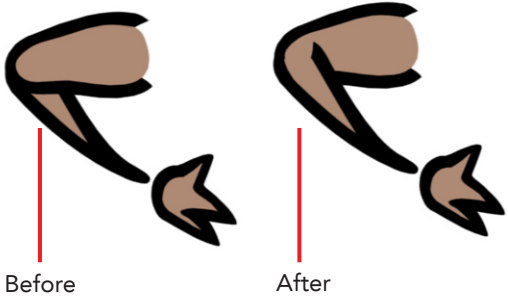


Refer to the Toon Boom Animate User Guide to learn more about complete production rigging.

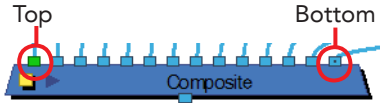
This is how your Network should look after the hierarchy is complete.



Ordering Layer Hierarchy

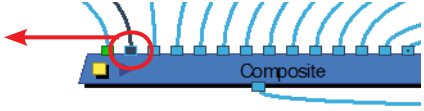


As you work on your puppet and after you create a hierarchy for your arms, legs or other body parts, it is possible that you will notice that some parts do not appear in the correct order. If you move the forearm layer above the arm layer using the Timeline view, you will break the hierarchy. Luckily, reordering in the Network is as easy as a click and drag and will not modify the hierarchy.

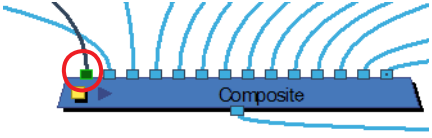


On a Composite module, the bottom element is connected on the far right port and the top element is connected on the far left port.

1. In the Network view, click and hold the Composite port corresponding to the piece you want to reorder.

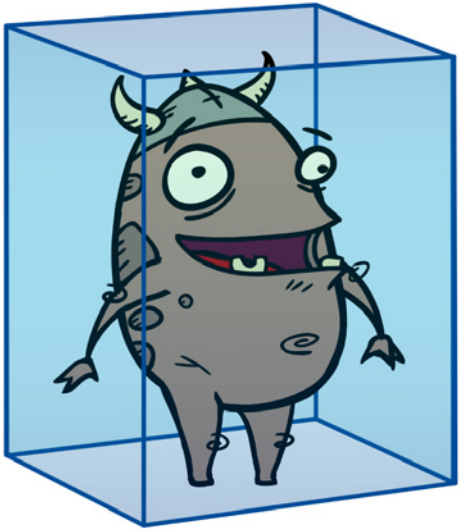


2. Drag the selected connection to the new position and release.



Refer to the Toon Boom Animate User Guide to learn more about the Network view and its functionality.

Storing the Puppet in the Library



To store your character in the Library, you first need to create a position keyframe on all your layers and finally group and store it as a template in a sharing library.

1. In the Timeline view, select the first frame of every layer.
2. In the top menu, select **Insert > Keyframe** or use the default keyboard shortcut [Ctrl] + [F6] (Windows) or [⌘] + [F6] (Mac).
3. In the Network view, select all your modules and use the default keyboard shortcut [Ctrl]+[G] (Windows) or [z]+[G] (Mac OS X) to group them into a Group module.
4. Click on the Group module's right side black arrow to enter the group.
5. From the Module Library, select a Multi-Port-Out module and drag it into the Network view.
6. In the Network view, connect the Multi-Port-Out module to the bottom of the Composite.
7. Click on Top from the Network view's left part of the status bar, to exit the Group module.
8. In the Library view, select the Animate Pro Library folder, right-click (Windows) or [Ctrl]+click (Mac OS) and select Right To Modify.
9. In the Network view, select your group and use the default keyboard shortcuts [Ctrl]+[C] and [Ctrl]+[V] (Windows) or [⌘]+[C] and [⌘]+[V] (Mac OS X) to copy and paste it into the Animate Pro Library.

You now have a complete cut-out puppet!

Refer to the Toon Boom Animate User Guide to learn more about Group modules and the Library.

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Chapter 5 Compositing

In Toon Boom Animate Pro, there are many effects you can use to improve the quality of a project.

In this chapter you will composite effects in a production-like context. Animate Pro allows you to composite your scene using a node system. In this lesson, you will perform the same tasks as the Creating Effects chapter from the Toon Boom Animate Getting Started Guide, but using the node network. In Animate Pro, you can not create effects from the Timeline view.

You can practice these effects on material you create from scratch or you can also use the sample material.

- Undone_example_Sample_material > Chapter5PRO_Sample_Material.tpl

The topics are:

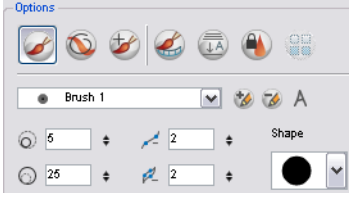
- Drawing Your Star Points
- Making Your Stars Twinkle
- Making your Stars Glow
- Fading your Stars
- Lighting Up the Lampposts
- Making it Shine in the Night
- Keeping Your Distance
- Preparing to Hit the Switch
- Hitting the Switch
- Shooting Star
- Putting On a Mask
- Editing the Mask

Drawing Your Star Points

To build a starry night effect, we first need a layer of stars. In Animate Pro, select a round brush, pick a star colour, and draw dots where you want your stars on a new drawing layer!

If you are working with Animate Pro PLE, use the star shaped brush and skip the next topic task.

1. In the Timeline view, click on the Add Layers button to add a Drawing layer on top of your background. Name it **`Stars`** and click on its first cell.
2. In the Tools toolbar, select the Brush tool.
3. In the Tool Properties view, select a round shape and customize the minimum and maximum size values so that you have a varied range of star sizes when you draw with your pen tablet.



4. In the Colour view, pick a star-like colour.
5. In the Camera view, draw as many dots as you want stars.

If you want five-point stars or if you are working with Animate Pro PLE, you can select a star shaped brush from the Brush tool Properties and skip the next topic task.

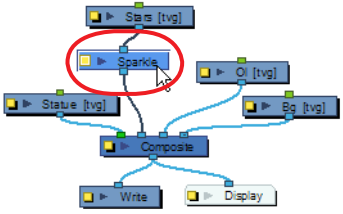
Making Your Stars Twinkle

(NOTE:This feature is not available in Animate Pro PLE version)

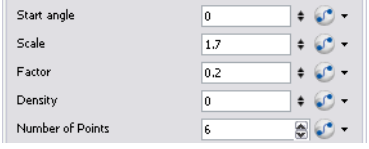
Now that you have drawn the positions of your stars, it's time to make some magic and transform these points of light into stars.

As you customize your effects, you can preview the final result in the Camera view. In the Camera view bottom toolbar, click on the Render mode button. To update the preview, click on the Update Preview button.

1. Display both the Network view and Module Library.
2. In the Module Library, under the Plugins tab, select and drag a Sparkle Effect into your Network view.
3. In the Network view, select the Sparkle module, hold down the [Alt] key as you drag it in between the Stars and Composite modules to connect it.



4. Click on the Sparkle module's Properties to open the **Layer Properties** dialog box and modify the Start Angle, Scale, Factor and Number of Points values to customize the look of your stars.



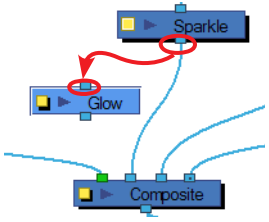
Refer to Toon Boom Animate User Guide to learn more about the different options of the Sparkles effect module.

Making your Stars Glow

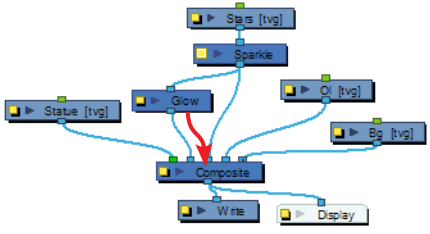
Now that you have stars in your project, it is time to make them shine!

1. Display both the Network and Modules Library views.
2. In the Module Library view, select a Glow module under the Filters tab and drag it into the Network view.

3. Click on the Sparkle module's bottom port and drag it in the Glow module's top port to connect it.

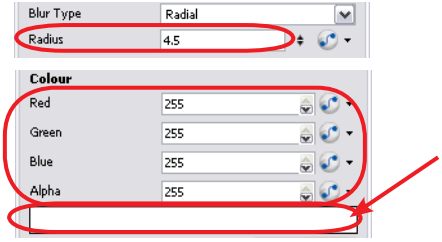


4. Connect the Glow module to the Composite.



Refer to Toon Boom Animate User Guide to learn more about connecting the modules and the Network view.

5. In the Network view, click on the Glow module's Properties button to display the Layer Properties dialog box.



6. Set the Blur Radius value.
7. Pick a colour and alpha value. Double-click on the colour swatch to display the Colour Picker.
8. Display the result in the Camera view using the Render mode.

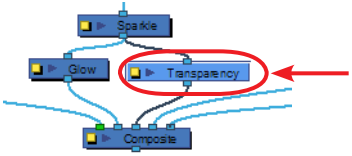
Adding new layers in the Timeline view can result in a messy Network. Use the Order Network Down button in the Scripting toolbar to untangle the modules. Refer to Toon Boom Animate User Guide to learn more.

Fading your Stars

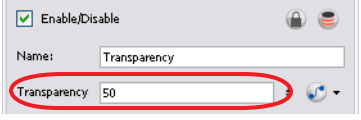
Now that your sky is glowing with stars, you might want to soften them a bit.Try adding a Transparency effect on your Star layer.

1. Display both the Network and Module Library views.
2. In the Module Library view, select a Transparency module under the Filters tab and drag it into the Network view.

3. In the Network view, select Transparency module and hold the [Alt] key as you drag it between the Sparkle and Composite modules.



4. In the Network view, click on the Transparency module's Properties button to modify the transparency value of your layer.

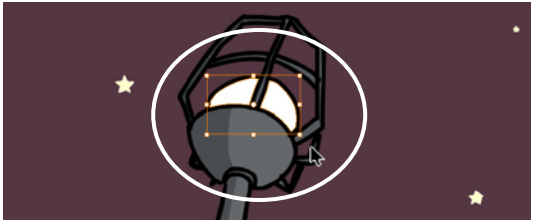


5. Display the result in the Camera view using the Render mode.

Refer to Toon Boom Animate User Guide to learn more about the Transparency effect module.

Lighting Up the Lampposts

Lighting up the lampposts is as easy as making the stars shine. Only one step differs. You have to create a lamp layer from the background layer.

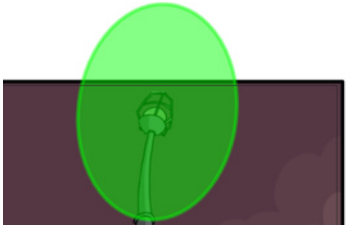


1. In the Timeline view, select the Bg layer's first cell.
2. In the Tools toolbar, select the Select tool.
3. In the Camera view, select the light bulb zones of the two lampposts. Press [Shift]+Click as you select the zones to create a multi-selection.
4. Press the default keyboard shortcut [F9] to Create Drawing from Drawing Selection.
5. Name your new layer **`light_matte`**.
6. Drag a Glow module effect from the Module Library to the Network view.
7. In the Network view, connect the Glow module under the light_matte module and customize the effect.
8. Verify the result in the Camera view, using the Render mode.

When the Network view gets overcrowded, you can select modules and gather them inside Group modules using [Ctrl]+[G] (Windows) or [⌘]+[G] (Mac OS X). Refer to Toon Boom Animate User Guide to learn more.

Making it Shine in the Night

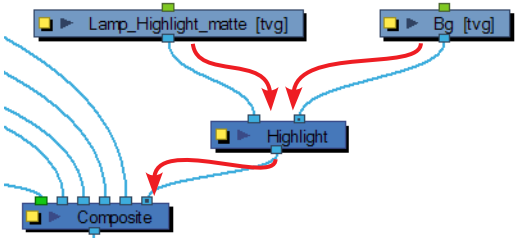
Adding a halo around the lampposts and a highlight on the statue is an easy and effective way to enhance the glow effect and integrate all of the elements in the scene.



1. In the Timeline view toolbar, use the Add Layers button to create a new drawing layer.
2. Name this new layer **`Lamp_Highlight_matte`**.
3. In the Timeline view, select the first cell of the new layer.
4. In the Tools toolbar, select the Ellipse tool.
5. In the Tool Properties view, enable the Auto Fill mode.
6. In the Colour view, select any colour.
7. In the Camera view, trace a large ellipse around the lamp area, this shape will become your halo.
8. Display both the Network and Modules Library views.
9. In the Module Library view, select a Highlight module under the Filters tab and drag it into the Network view.

Refer to Toon Boom Animate User Guide to learn more about the Highlight module.

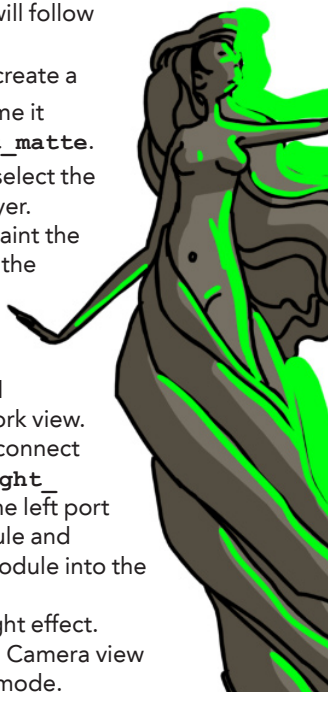
The Highlight module, unlike the Glow effect, will only affect specific layers. This means you need to connect the mask as well as the layer it will affect. In this case, it will be the Bg layer.



1. In the Network view, connect the Highlight module to the Composite module.
2. Connect the Lamp_Highlight_matte module into the left port of the Highlight module.
3. Connect the Bg module into the right port of the Highlight module.
4. Click on the Highlight module's Properties button and customize the effect.
5. Verify the result in the Camera view using the Render mode.

The statue highlight effect will follow similar steps.

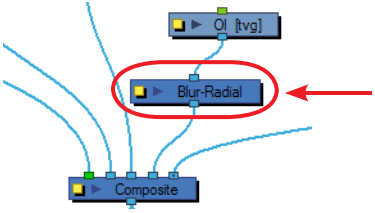
1. In the Timeline view, create a new layer and name it **`Statue_Highlight_matte`**.
2. In the Timeline view, select the first cell of the new layer.
3. In the Camera view, paint the highlight zones using the Brush tool.
4. In the Module Library view, select a Highlight module and drag it into the Network view.
5. In the Network view, connect the **`Statue_Highlight_matte`** module into the left port of the Highlight module and connect the Statue module into the right port .
6. Customize the highlight effect.
7. Verify the result in the Camera view using the Render mode.



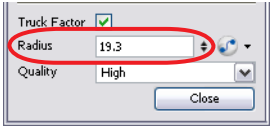
Keeping Your Distance

A good way to increase an illusion of depth is by using an overlay which is out-of-focus. In this example we will be hiding behind a broken structure.

1. Display both the Network view and Modules Library.
2. In the Module Library view, select a Blur-Radial module under the Favourites tab and drag it into the Network view.
3. In the Network view, select and hold the [Alt] key as you drag the Blur-Radial module in between the OI and Composite modules to connect it.



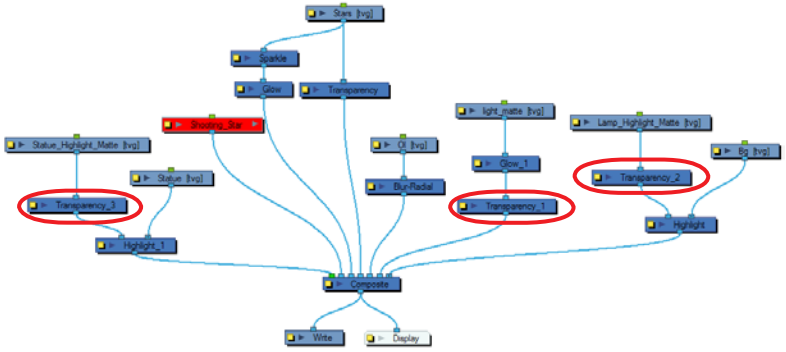
4. Click on the Blur-Radial module's Properties button to customize the Radius value of the effect.



5. In the Camera view, verify the result using the Render mode.

Refer to Toon Boom Animate User Guide to learn more about the Blur-Radial effect module.

Preparing to Hit the Switch



All these effects can be animated over time. For this example, we will progressively light up the lampposts making their glow, halo and the statue's highlight gradually appear.

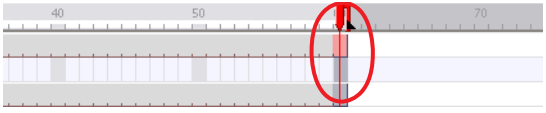
1. In the Module Library view, drag three Transparency effects to the Network view.

2. In the Network view, connect the lamppost's Glow layer into one of the Transparency layers.
3. Connect the matte shape layers of the two Highlight effects into the two remaining Transparency layers.

With these Transparency layers you will create a fade in effect, making the scene go from lights out, to lights on.

Now we need to extend the drawing exposure.

1. In the Timeline view, make a multi-selection which includes the last cell of each layer using [Shift]+Click and press [F5].

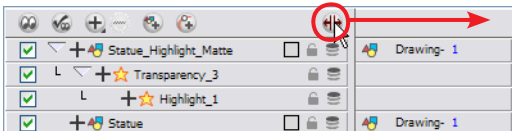


Refer to the Toon Boom Animate User Guide to learn more about keyframes and functions.

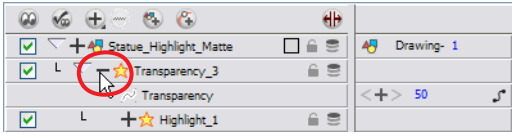
Hitting the Switch

Now is time to create a function and enter the keyframes that will animate the Transparency effects and gradually light up your scene.

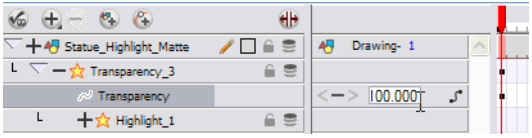
1. In the Timeline view, click on the Expand button to display the Data view.



2. In the Timeline view, click on the Transparency layer Expand button to display the Transparency's function.



3. Make sure that your timeline marker is on the first cell, click on the Add Keyframe button and enter the first Transparency value. This keyframe should be set to 100 so that the lights are out.

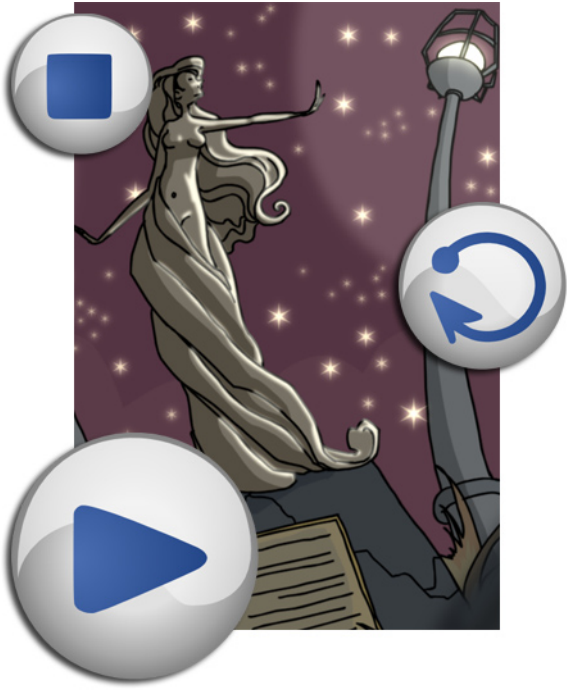


4. Move the timeline marker to the last frame of your scene and press the Add Keyframe button and enter the last transparency value. This value should be set to 0 (zero) to light up the scene completely.

5. Repeat Step 1 to Step 4 for the other two Transparency layers.

Follow these simple steps to preview your animated effect.

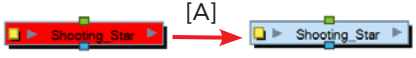
1. In the Playback toolbar, press on the Render and Play button.
2. Your frames will be calculated and the Play view will pop up.
3. In the Play view, press on the Play button and enjoy your scene!



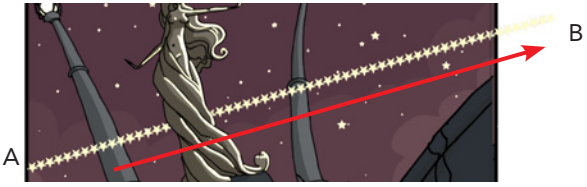
Refer to Toon Boom Animate User Guide to learn more about the Play view and previewing your scene as well as exporting your scene.

Shooting Star

Now, to make things more interesting, let's add a shooting star flying across the heavens. Use the disabled module Shooting_Star which we have provided.



1. In the Network view, select and enable the Shooting_Star module using the default keyboard shortcut [A].



To animate the shooting star:

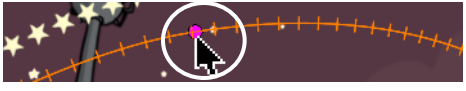
1. In the Tools toolbar, click on the Animate button and then select the Transform Tool.
2. In the Timeline view, click on the first cell of the Shooting_Star layer.
3. In the Camera view, click and drag the shooting star to its first position on the extreme left, outside of the camera frame.
4. In the Timeline view, click on the last cell of the Shooting_Star layer.
5. In the Camera view, click and drag the shooting star across the screen, ending at it's final position.

The system will automatically create the motion between the two keyframe positions.

When animating the shooting star, make sure that the Peg Selection Mode in the Transform tool Properties view is disabled.

The shooting star now moves at a constant speed along the straight line from point A to point B. To add a curve and a velocity effect, follow these steps.

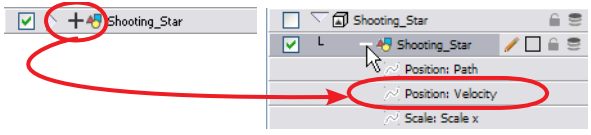
1. In the Timeline view, select the Shooting_Star layer.
2. Select **View > Show > Control** to display the trajectory.
3. In the Camera view, position your cursor over the trajectory and press [P] to add a control point.
4. In the Camera view, click and drag the new control point to create a curve.



5. In the Control Point toolbar, adjust the Tension and Continuity values to set your trajectory's curve.

To add a velocity effect:

1. In the Timeline view, click on the Expand button to display the Data view.
2. In the Timeline view, click on the Expand Arrow and Expand buttons of the Shooting_Star layer to display its functions.



3. In the Timeline view, double-click on the Position Velocity function of the shooting star layer.
   The **Velocity Editor** dialog box opens.

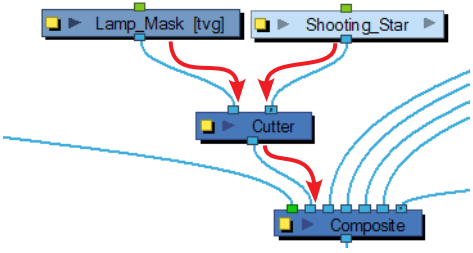
4. In the Velocity Editor dialog box, click on the last keyframe and drag the handle toward the centre to create a velocity curve.

By default, the preferences are set to Motion Keyframes, this means that the system will automatically create the motion between the two keyframes of the shooting star.

Putting On a Mask

Now the shooting star is all set, only one thing is left to do. Since the lampposts are part of the Bg layer, the star cannot pass behind them. For this reason, we will add a Cutter module and drawing that will hide the shooting star when it passes in front of the lampposts, giving the illusion of passing behind. For this lesson, a matte drawing of the lampposts is provided for you.

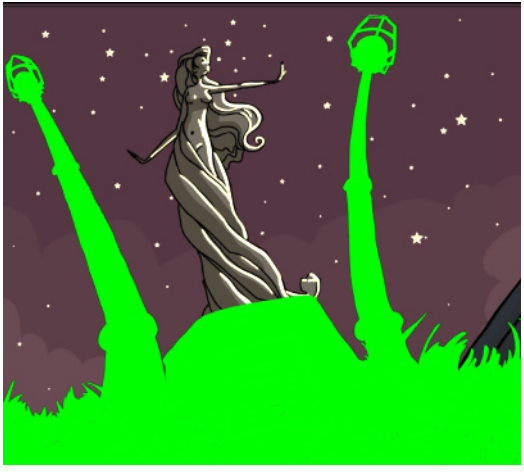
1. In the Network view, enable the Lamp_Mask layer using the default keyboard shortcut [A].
2. In the Module Library view, select a Cutter module under the Filters tab and drag it into the Network view.
3. In the Network view, connect the Lamp_Mask module to the Cutter module right port, the Shooting_Star group module in the left port and connect the Cutter module into the Composite module.



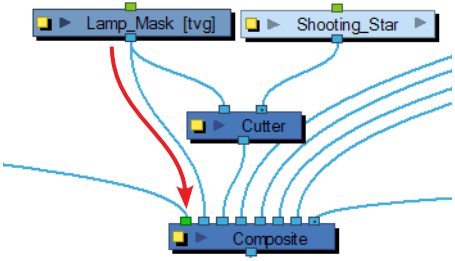
The shooting star will now cross the screen behind the two lampposts!

Refer to the Toon Boom Animate User Guide to learn more about Trajectories, Control Points and the Velocity Editor.

Editing the Mask



Once a matte drawing module is connected to a Cutter effect the drawing will become invisible in the Camera view, as it will automatically be applied as a mask. If you need to edit your matte drawing after you create your connections in the Timeline view, you can easily make your drawing visible without breaking the connections.



1. In the Network view, connect the Lamp_Mask module directly into the Composite module without changing the current connection via the Cutter module.

This will automatically render your drawing visible in the Camera view. It will be displayed on top of all other layers, making the editing easy to do.

1. In the Tools toolbar, select the drawing tools you need and edit the matte in the Camera view.
2. When you are done, simply disconnect the Lamp_Mask module from the Composite module, keeping it connected only via the Cutter module.

Refer to the Toon Boom Animate User Guide to learn more about Cutter and Effects.

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- Sunrise Sunset
- Lens Flare FX Template
- Storyboarding Without a Pencil
- Importing a Final Draft Script in Storyboard

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