



Computer Graphics and Design

Lecture 8

Digital Painting

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Lecturer learning outcomes

- ❖ Understand the basics and advantages of digital painting compared to traditional methods.
- ❖ Master Photoshop's key digital painting tools, including brushes, layers, and blending modes.
- ❖ Apply techniques like sketching, color blocking, and shading to create polished digital artwork.
- ❖ Use graphics tablets effectively for precision and natural hand movements.
- ❖ Create and use custom brushes and textures for unique effects.
- ❖ Implement non-destructive editing workflows using Photoshop layers.
- ❖ Recreate realistic lighting, shadows, and reflections in digital paintings.
- ❖ Export and present completed artwork for digital or print use.



Introduction to Digital Painting in Photoshop

Digital painting is a modern art technique that involves creating artwork using digital tools such as graphic tablets, styluses, and software like Adobe Photoshop. Unlike traditional painting, which relies on physical mediums like oils, acrylics, or watercolors, digital painting allows artists to use virtual brushes, colors, and textures to mimic real-world techniques. This method offers significant advantages, including flexibility, ease of revision, and a wide range of creative possibilities.

In Photoshop, digital painting transforms the program from an image-editing tool into a canvas where artists can experiment with styles, colors, and brush strokes. Photoshop provides essential tools for artists to explore different techniques, from creating rough sketches to highly detailed, polished artwork.

Advantages of Digital Painting in Photoshop:

1

Non-Destructive Workflow:

Photoshop's layer system enables artists to work non-destructively. Changes can be made on separate layers without affecting the original artwork.

2

Customizable Brushes

Photoshop offers a vast range of brush types, from default brushes to custom ones that simulate traditional painting tools like pencils, oils, and watercolors.

3

Flexibility with Undo and History

Digital artists can experiment freely without fear of making permanent mistakes, thanks to Photoshop's history panel and undo feature.



Advantages of Digital Painting in Photoshop:

4 Blending Modes and Opacity Control

Layers and blending modes allow artists to experiment with transparency and light interaction, which are difficult to replicate in traditional media.

5 Efficiency

Tools like the smudge brush, blending tools, and adjustment layers can speed up processes like shading, color correction, and refinement, making complex art creation faster and more manageable.



Digital painting vs Traditional painting

Aspect	Digital Painting	Traditional Painting
Medium	Created using digital tools (software, tablets)	Uses physical materials (canvas, brushes, etc.)
Tools Required	Graphics tablet, computer, stylus, software	Brushes, paints, canvas, palette, easel
Learning Curve	Steeper for software; easier to experiment	May require mastering techniques; hands-on skills
Undo/Redo Options	Easy to undo mistakes, multiple layers available	Difficult to correct mistakes, often permanent
Texture and Effects	Can simulate textures; endless possibilities	Real textures from materials; unique finishes
Cost	Initial investment in software and hardware	Ongoing costs for materials and supplies
Portability	Highly portable; can work anywhere with a device	Less portable; requires transport of materials
Reproducibility	Easy to duplicate and share online	Limited to physical reproduction methods
Style Variety	Wide range of styles easily achievable	Dependent on medium (oil, watercolor, acrylic)
Physical Presence	Lacks a physical form; exists digitally	Tangible artwork; can be framed and displayed
Community and Sharing	Online platforms for sharing and collaboration	Local galleries, exhibitions, and art shows
Environmental Impact	Less waste; depends on energy source	Uses physical materials that may harm the environment

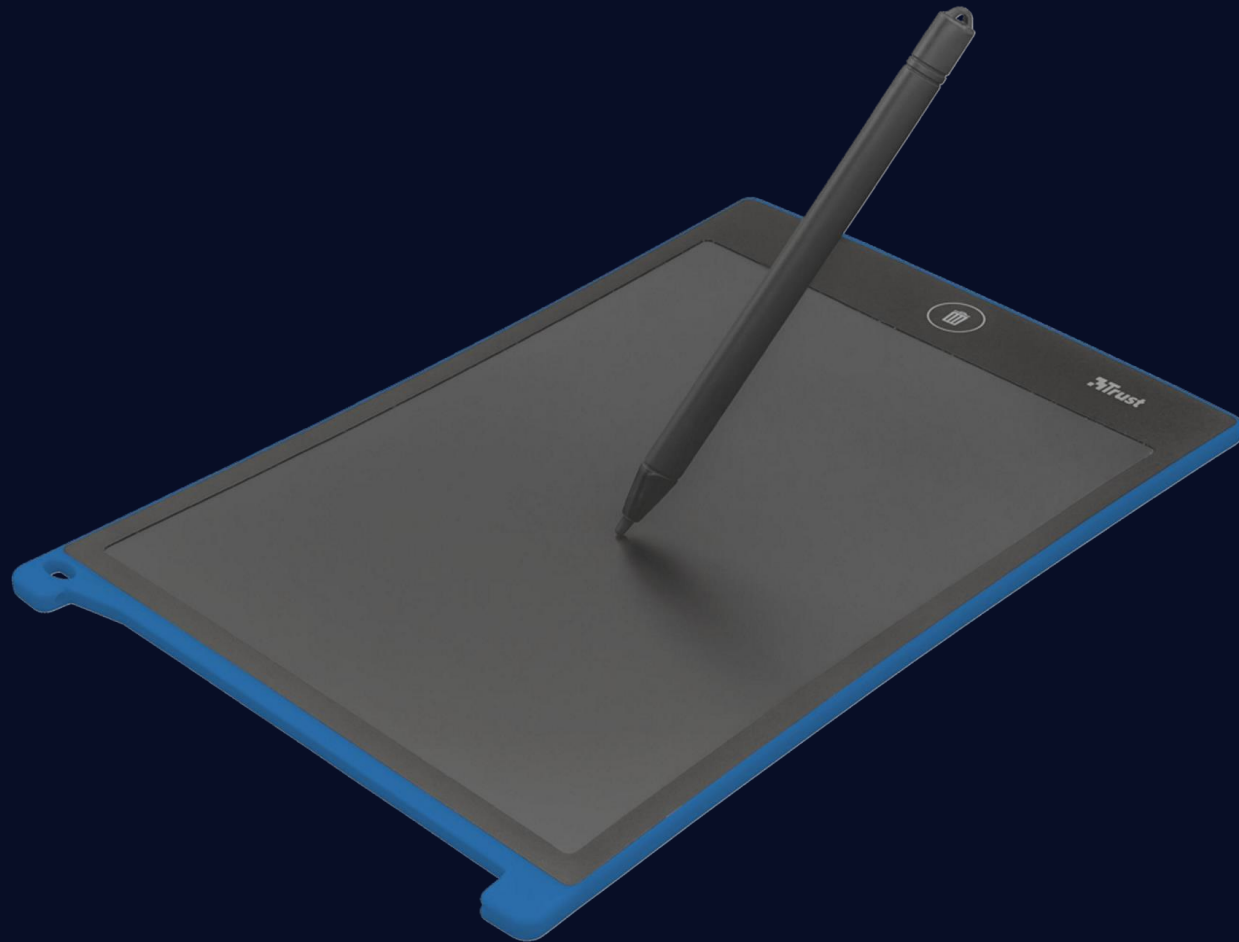
Why you need a graphics tablet for digital painting.

1. Pressure Sensitivity

Pen tablets provide **pressure sensitivity**, allowing you to control the thickness and opacity of your brush strokes based on how hard you press the stylus. This mimics the behavior of traditional drawing tools, like pencils or brushes, where harder pressure results in thicker lines and lighter pressure in finer lines. This sensitivity adds a level of precision and realism to your strokes that is difficult to achieve with a mouse.

2. Natural Hand Movements

Using a stylus on a pen tablet feels more natural than using a mouse, as it mimics the motion of traditional drawing or painting. This allows for **greater fluidity** in your strokes, leading to more organic and expressive artwork. The stylus is designed to fit comfortably in your hand, reducing strain and enabling longer working periods without discomfort.



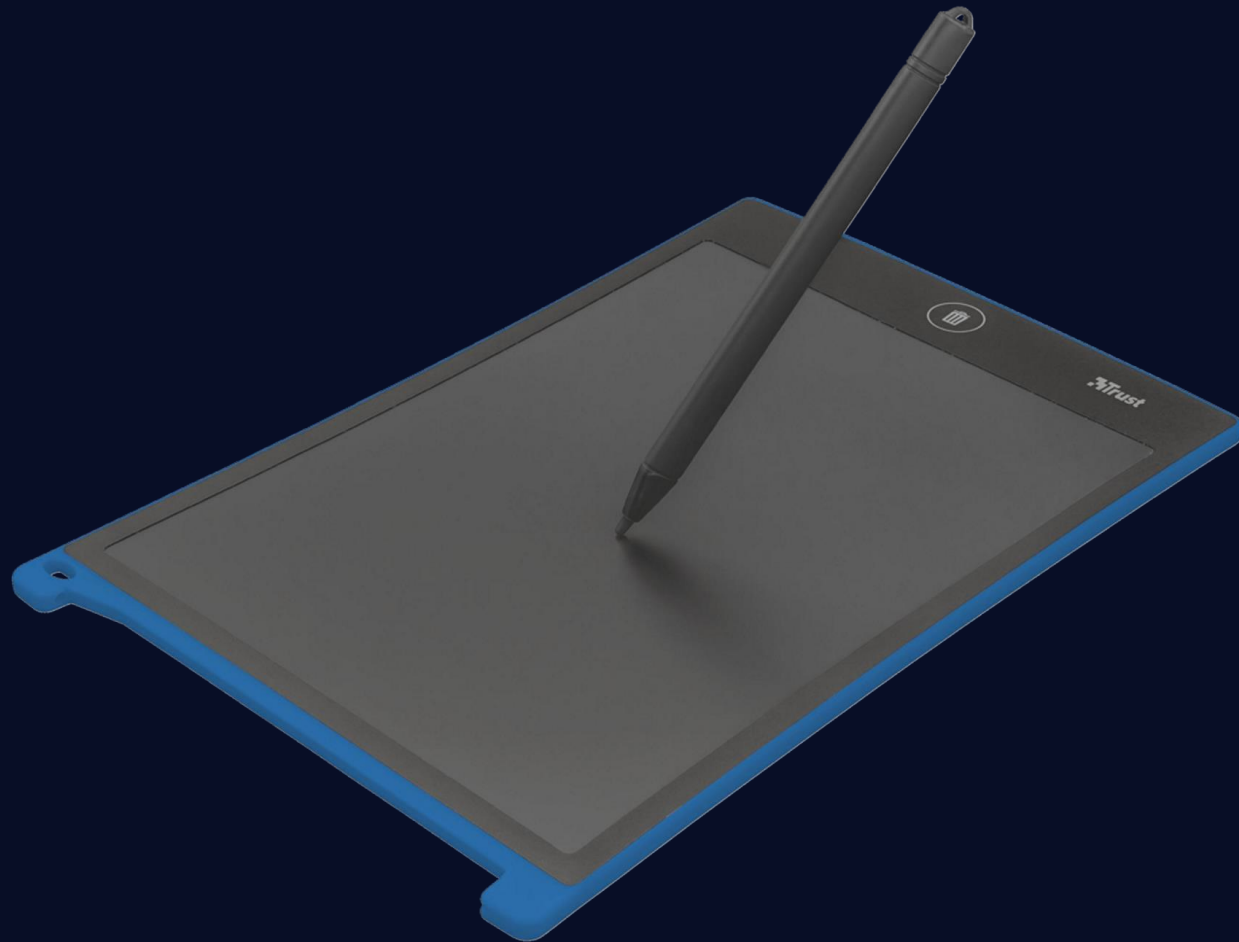
Why you need a graphics tablet for digital painting.

3. Accuracy and Control

The stylus offers much finer **control and precision** over brush strokes compared to a mouse. This is particularly important in digital painting, where details and subtle variations in line work are essential. A pen tablet allows for intricate detailing, smooth curves, and accurate line control, all critical for professional-quality digital artwork.

4. Tilt Functionality

Many pen-tablets support **tilt recognition**, allowing the angle of the pen to affect the stroke in the same way tilting a pencil or brush would change the texture or line quality in traditional art. This feature helps achieve more natural shading and brushwork, adding depth and nuance to your digital painting.



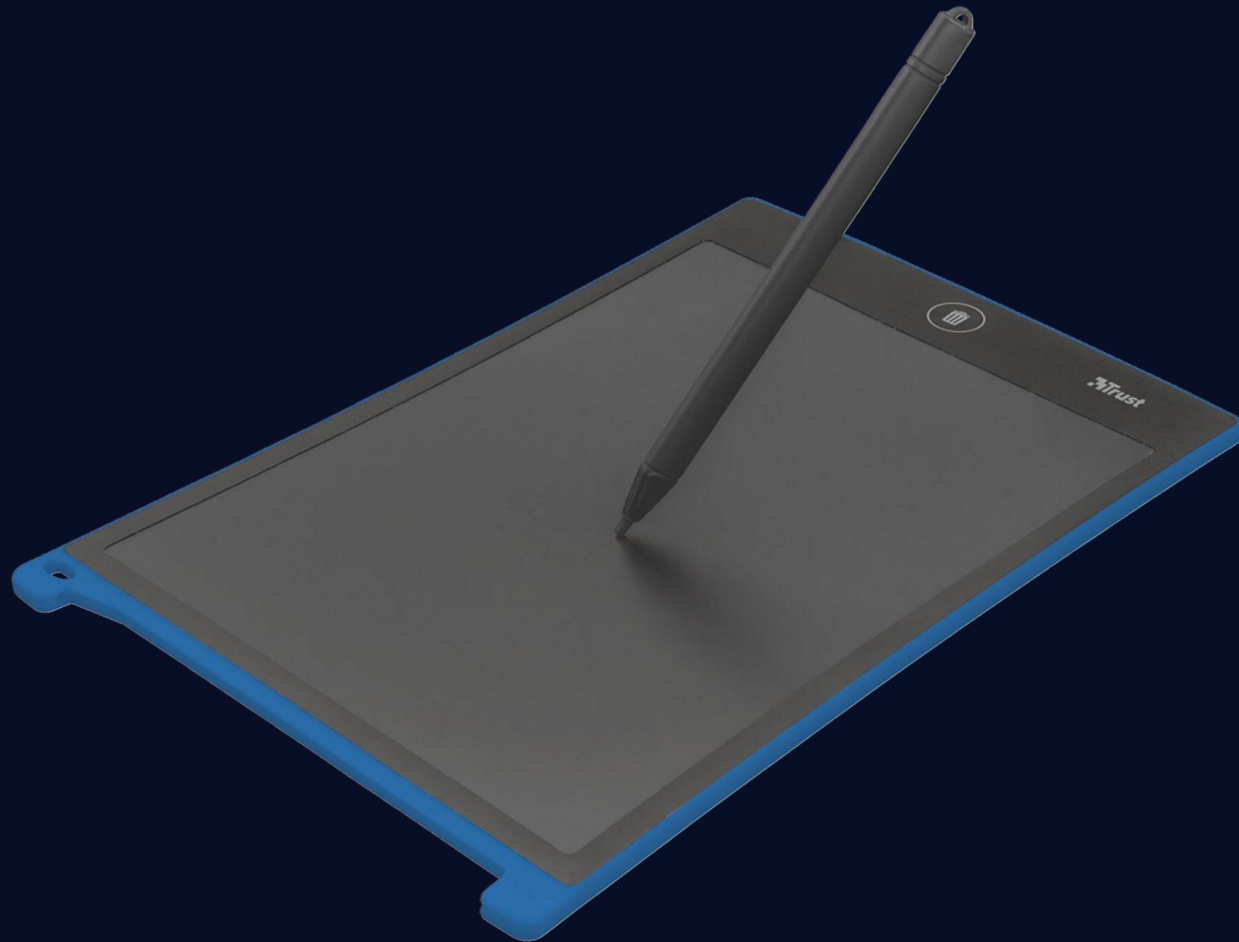
Why you need a graphics tablet for digital painting.

5. Efficiency and Speed

With a pen tablet, your workflow becomes faster and more efficient. The pen's responsiveness makes it easier to switch between quick broad strokes and intricate detailing without needing constant adjustments, like with a mouse. Additionally, customizable buttons on the tablet and stylus can be programmed for quick access to frequently used functions, improving productivity.

6. Ergonomics

Digital painting with a mouse can be uncomfortable for long sessions and can lead to repetitive strain injuries (RSIs) due to unnatural wrist movements. A pen tablet offers a more **ergonomic** experience, reducing the risk of strain and making long hours of work more comfortable.

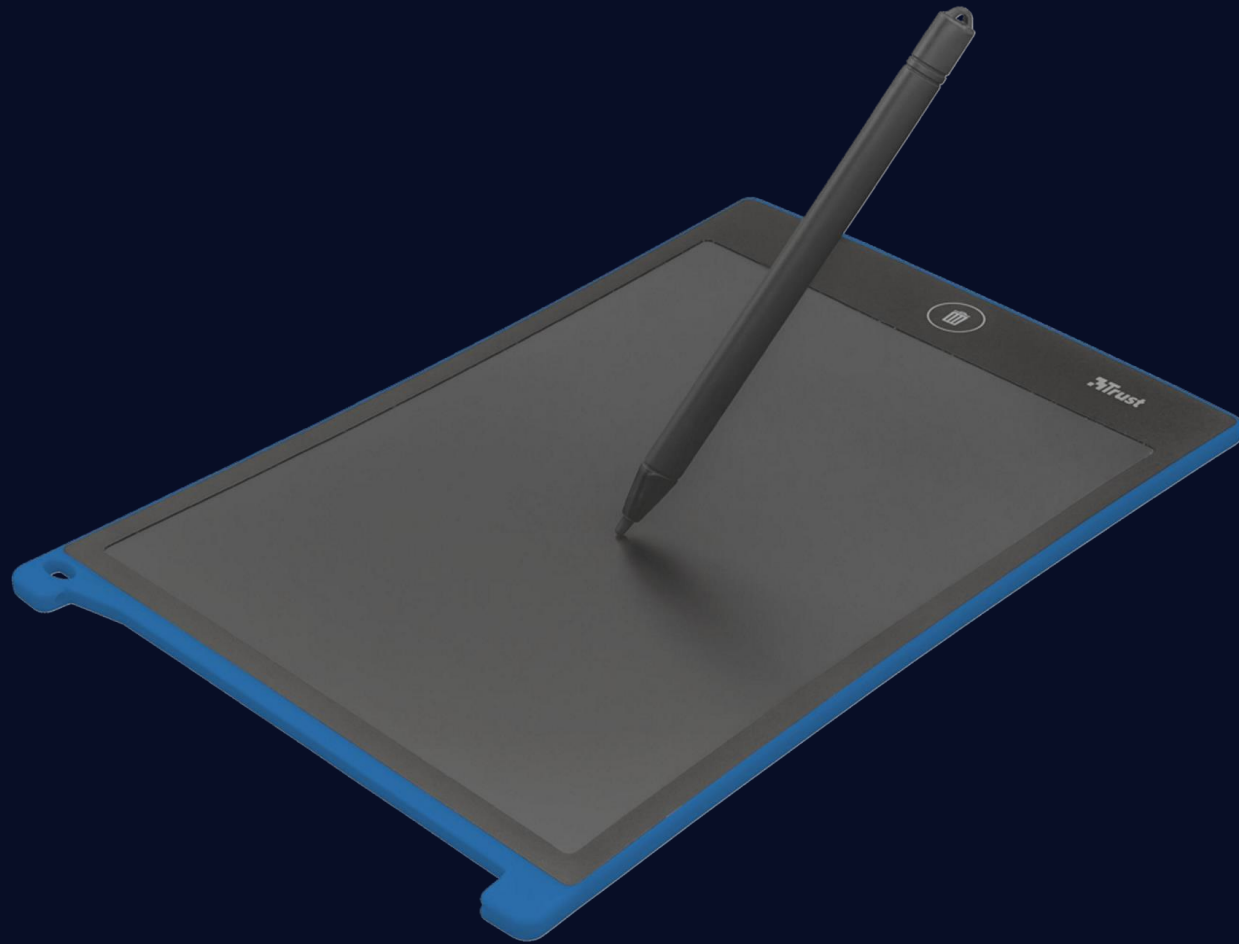


Why you need a graphics tablet for digital painting.

7. Precision for Detailed Work

For tasks that require precise detail—like drawing fine lines, delicate shading, or intricate textures—a stylus provides a level of precision that simply isn't possible with a mouse. This is crucial for professional-level digital paintings, where attention to small details is key.

In summary, a **pen tablet** is essential for digital painting because it offers pressure sensitivity, natural hand movements, precise control, and ergonomic advantages, all of which enhance the quality and efficiency of the artwork. It bridges the gap between traditional and digital art, making the process more intuitive and expressive.





The Brush Tool in Photoshop: An Overview

The **Brush Tool** is one of Photoshop's most essential tools for digital painting and editing. It allows users to create freehand strokes in a variety of styles, making it a fundamental part of creating, blending, and detailing in artwork. Here's a detailed breakdown of how it works and its various settings.

The **Brush Tool** (shortcut: **B**) simulates a traditional paintbrush by allowing users to paint directly on the canvas in Photoshop. It can be used for a wide range of tasks, from painting and drawing to adding textures and shading. The versatility of the tool comes from its highly customizable settings, including brush size, hardness, opacity, and more.



Key Features of the Brush Tool

1. Brush Settings Panel

The **Brush Settings Panel** is where you can adjust how the brush behaves.

- **Brush Tip Shape:** Adjusts the size and shape of the brush. You can choose from round, square, textured, or custom shapes to create different effects.
- **Size:** Controls the diameter of the brush stroke. Smaller sizes produce finer details, while larger sizes are useful for broad strokes.
- **Hardness:** Adjusts the softness of the brush's edges. A harder brush creates a sharp-edged line, while a softer one produces more feathered edges, ideal for blending.



Key Features of the Brush Tool

2. Opacity and Flow

- **Opacity:** Controls the transparency of the brush strokes. An opacity setting of 100% results in fully opaque strokes, while lower values make strokes more transparent.
- **Flow:** Determines how quickly paint is applied as you hold down the mouse or stylus. Lower flow settings allow for smoother, gradual application, which is useful for blending colors.



Key Features of the Brush Tool

3. Smoothing

- The **Smoothing** feature allows you to create smoother, more precise strokes by reducing the shakiness in your brush movements. Photoshop automatically smooths the path of your strokes, which can be useful for drawing curved or controlled lines.

4. Blending Modes

The Brush Tool can be set to different **Blending Modes** (found in the top options bar) that change how the brush interacts with the colors already on the canvas. Some common modes include:

- **Normal:** The default mode, where the brush applies color directly.
- **Multiply:** Darkens the colors where the brush is applied, often used for shading.
- **Screen:** Lightens the colors where the brush is applied, useful for highlights.



Using Custom Brushes

Photoshop offers a wide variety of default brushes, but you can also create or download **custom brushes** for specialized effects. Custom brushes allow for more texture, such as simulating natural media like charcoal, watercolor, or oil paint, and are essential for adding unique detail to digital paintings.

- **Creating a Custom Brush:**

- Select an image or area you want to convert into a brush shape.
- Go to **Edit > Define Brush Preset** to save it as a new brush.
- You can now use this custom brush in your artwork and adjust its settings like any other brush.

- **Brush Presets:**

- Photoshop includes a wide range of pre-made brush presets for different styles and textures.
- You can access them via the **Brush Preset Picker** in the top toolbar or through the **Brush Settings** panel.



Brush Dynamics

Brush dynamics add variability to your brush strokes based on the speed, pressure, and angle of your pen (if using a tablet).

These settings are especially useful for achieving more natural, varied strokes.

- **Shape Dynamics:** Changes the size, angle, and roundness of the brush tip based on the movement of the stylus.
- **Scattering:** Spreads the brush strokes across an area, which is useful for creating textures like grass or foliage.
- **Dual Brush:** Combines two different brushes to create more complex textures and effects.

Color Dynamics: Changes the hue, saturation, or brightness of the brush as you paint, giving the strokes a more varied, natural appearance.

Step-by-Step Guide for Digital Painting.

1

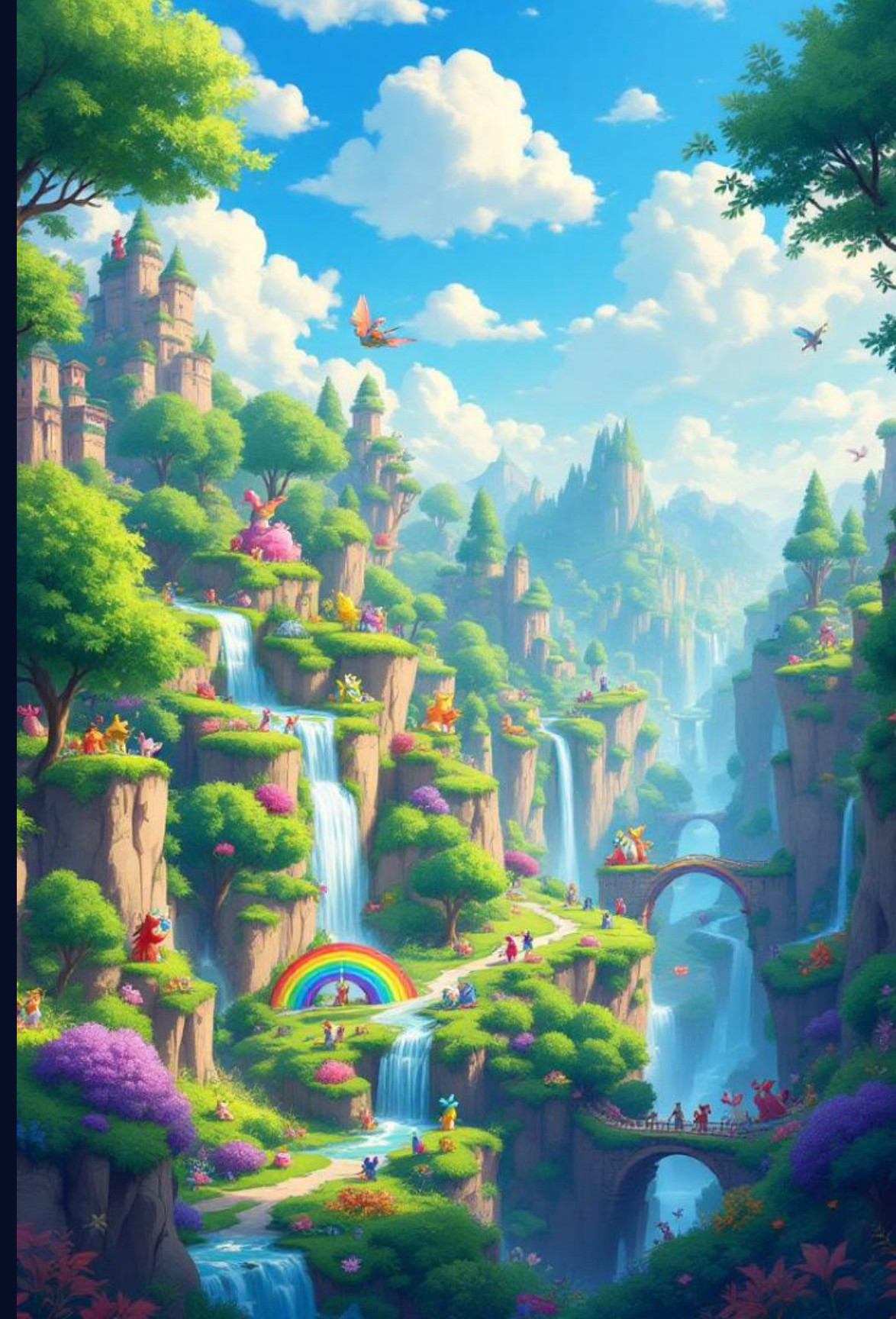
Set Up Your Canvas

Creating a New Document

Open Photoshop and create a new document with dimensions like 1920x1080 pixels at a resolution of 300 ppi. Setting up your canvas correctly is essential because it establishes the workspace where your artwork will come to life. The right dimensions and resolution ensure that your painting is suitable for both digital display and high-quality prints.

Import the Reference Image

Drag your reference image into Photoshop or place it on a separate layer. Having a reference image is crucial as it serves as a visual guide throughout the painting process. It helps you understand the colors, lighting, and composition, ensuring that your painting remains consistent with the scene you wish to depict.



Step-by-Step Guide for Digital Painting.

2 Start with a Rough Sketch

Select a Brush

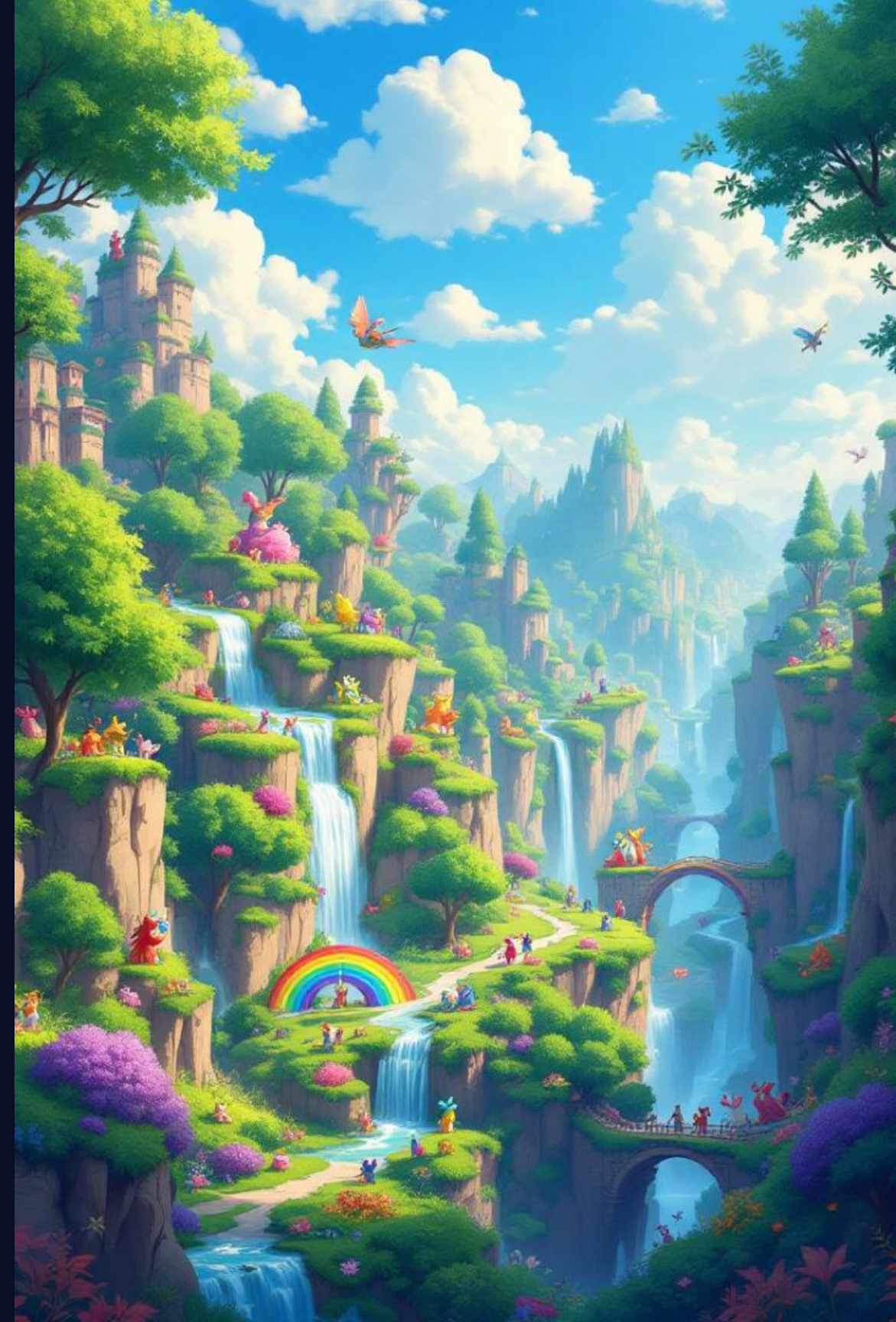
Choose a basic round brush with medium hardness and lower opacity for sketching. This step is important as it allows you to create a loose outline of your landscape, giving you the freedom to experiment with shapes without committing to fine details too early.

Create a Sketch Layer

Add a new layer for your sketch, keeping it editable. This organization is vital because it allows you to toggle visibility and make adjustments easily, keeping your work structured and reducing the risk of losing progress.

Refine the Sketch

Block in major elements like the sun and clouds. Keeping the sketch loose at this stage is important to capture the overall composition without getting bogged down by details, allowing you to establish a clear foundation for your painting.



Step-by-Step Guide for Digital Painting.

3 Block in the Basic Colors

Add Base Layers

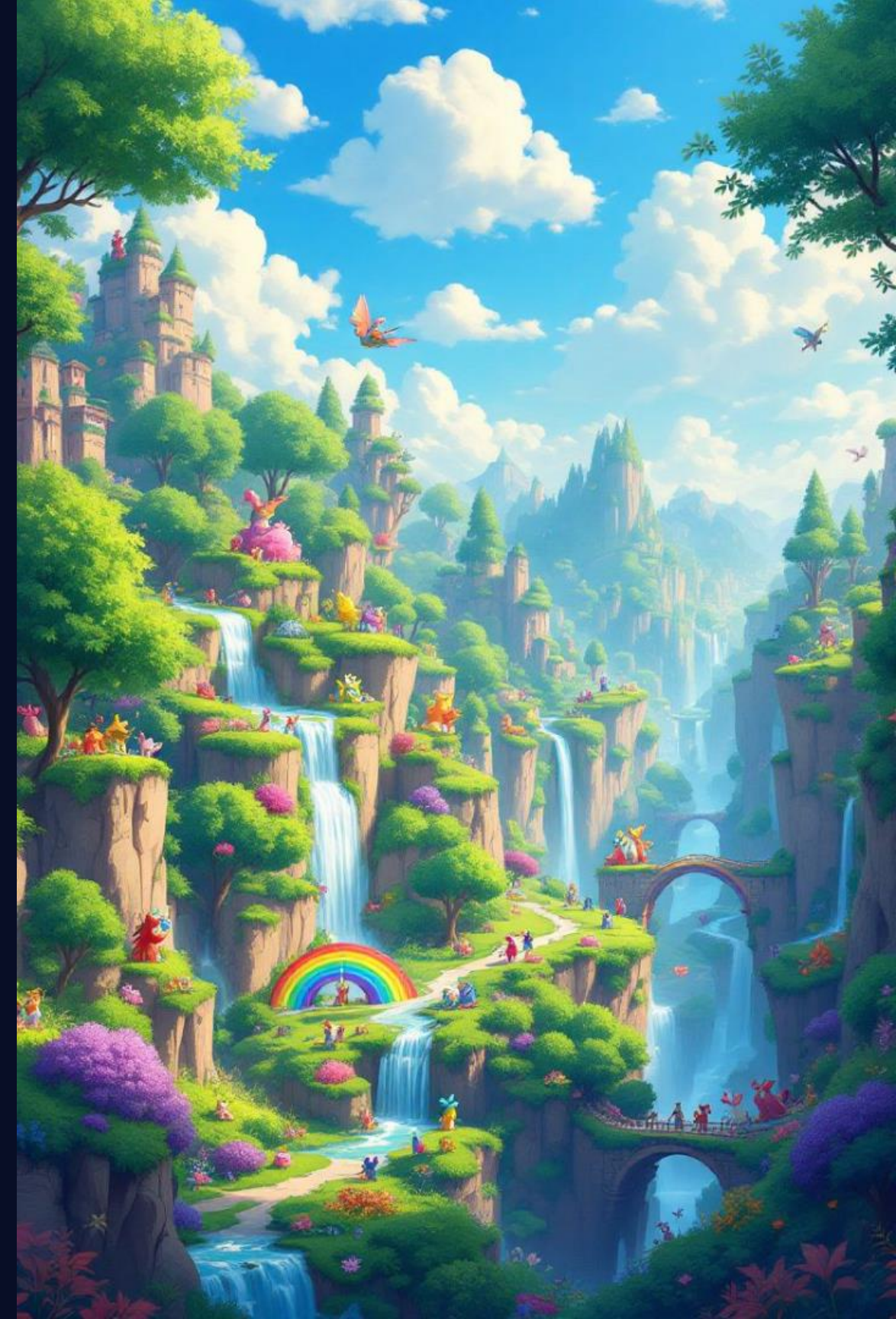
Create a new layer for base colors and sample hues from your reference image. This foundational step is essential because it establishes the color palette for your painting, giving you a clear framework to work from and ensuring a cohesive look across your piece.

Use Big, Soft Brushes

Select a large, soft brush to blend colors smoothly. This technique is crucial for creating a gradient effect in the sunset sky, helping you achieve a harmonious transition between colors that evoke the beauty of a natural sunset.

Separate Layers for Key Elements

Organizing elements into separate layers helps maintain clarity and flexibility. This is important because it allows for easier adjustments later on, enabling you to work on individual components without affecting the entire composition.



Step-by-Step Guide for Digital Painting.

4

Develop the Painting with Mid-Tones and Details

Refine the Sky and Sun

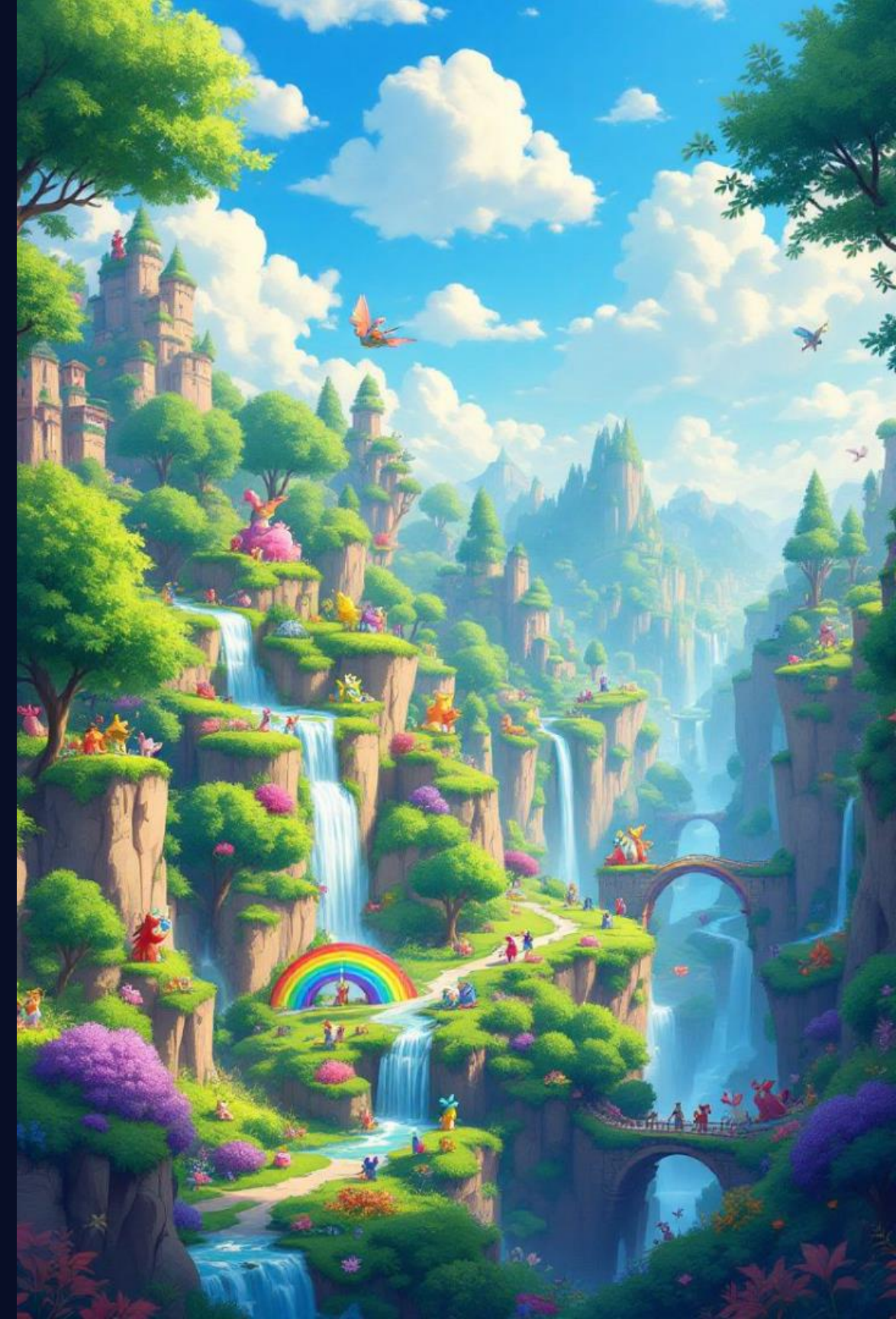
Blend the sky gradient smoothly and create a glowing effect for the sun. This step is crucial as it enhances the atmospheric quality of the painting, making the sunset feel alive and radiant, which is key to capturing the essence of the scene.

Add Clouds

Creating a new layer for clouds and focusing on their light and shadow adds depth. This step is important for realism, as clouds play a significant role in the overall mood of a sunset scene, influencing the light dynamics and color interactions.

Paint the Foreground and Shadows

Refining landforms with mid-tone colors and realistic shadows brings dimension to your artwork. This step is essential for grounding the painting, providing a sense of scale and perspective, and enhancing the overall composition.



Step-by-Step Guide for Digital Painting.

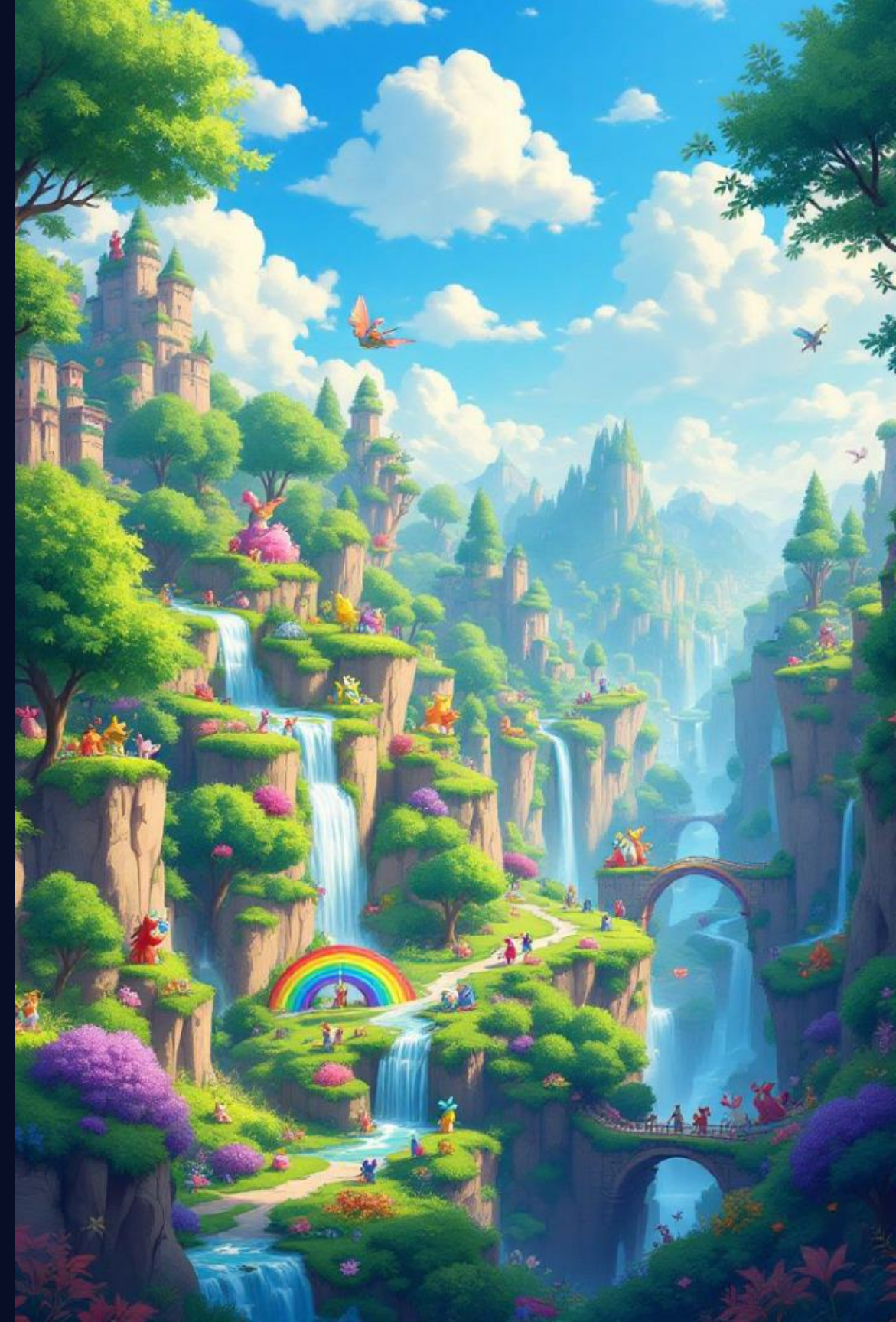
5 Work on Lighting and Reflections

Create Sunlight Reflections

Painting reflections in water adds realism and depth to the scene. This technique is important as it mirrors the light dynamics present in nature, making your painting more believable and visually appealing.

Adjust Lighting with Adjustment Layers

Using adjustment layers allows for fine-tuning of brightness and color tones. This is crucial because it enables you to make non-destructive edits, ensuring that you can experiment without losing original details, leading to a more polished final product.



Step-by-Step Guide for Digital Painting.

6 Add Fine Details and Textures

Refine Edges and Fine Details

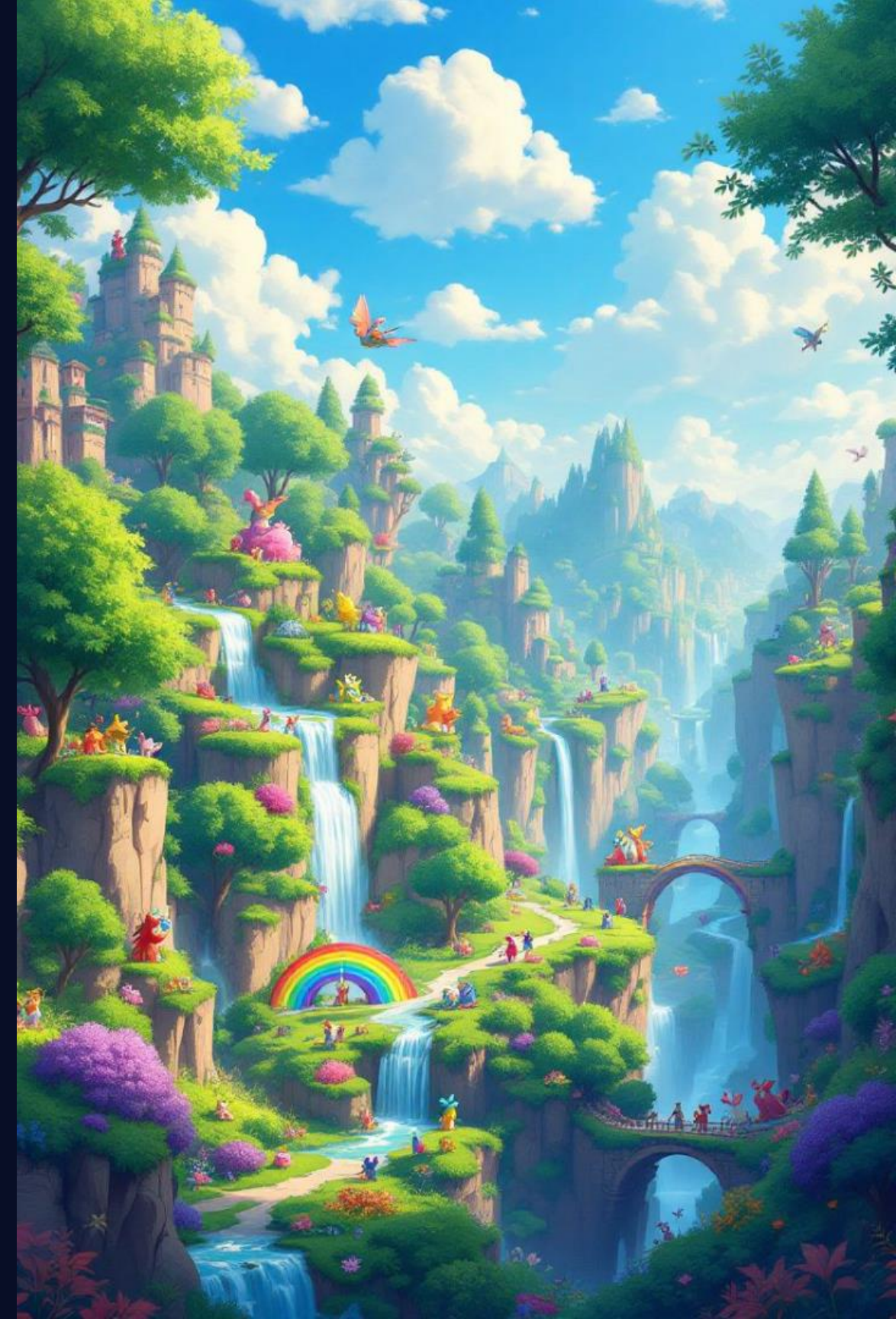
Switch to a smaller brush for detailing objects like trees and rocks. This step is vital for adding realism and focus, drawing viewers' eyes to key elements and enhancing the overall quality of the painting.

Texture the Ground and Sky

Using texture brushes adds realism to surfaces. This is important because texture plays a significant role in how viewers perceive your painting; realistic textures can create a more immersive experience.

Enhance Highlights

Adding subtle highlights emphasizes light sources and creates depth. This step is crucial for achieving a polished look, as highlights can bring attention to important areas and enhance the three-dimensionality of your artwork.



Step-by-Step Guide for Digital Painting.

7 Final Touches

Blend and Soften Edges

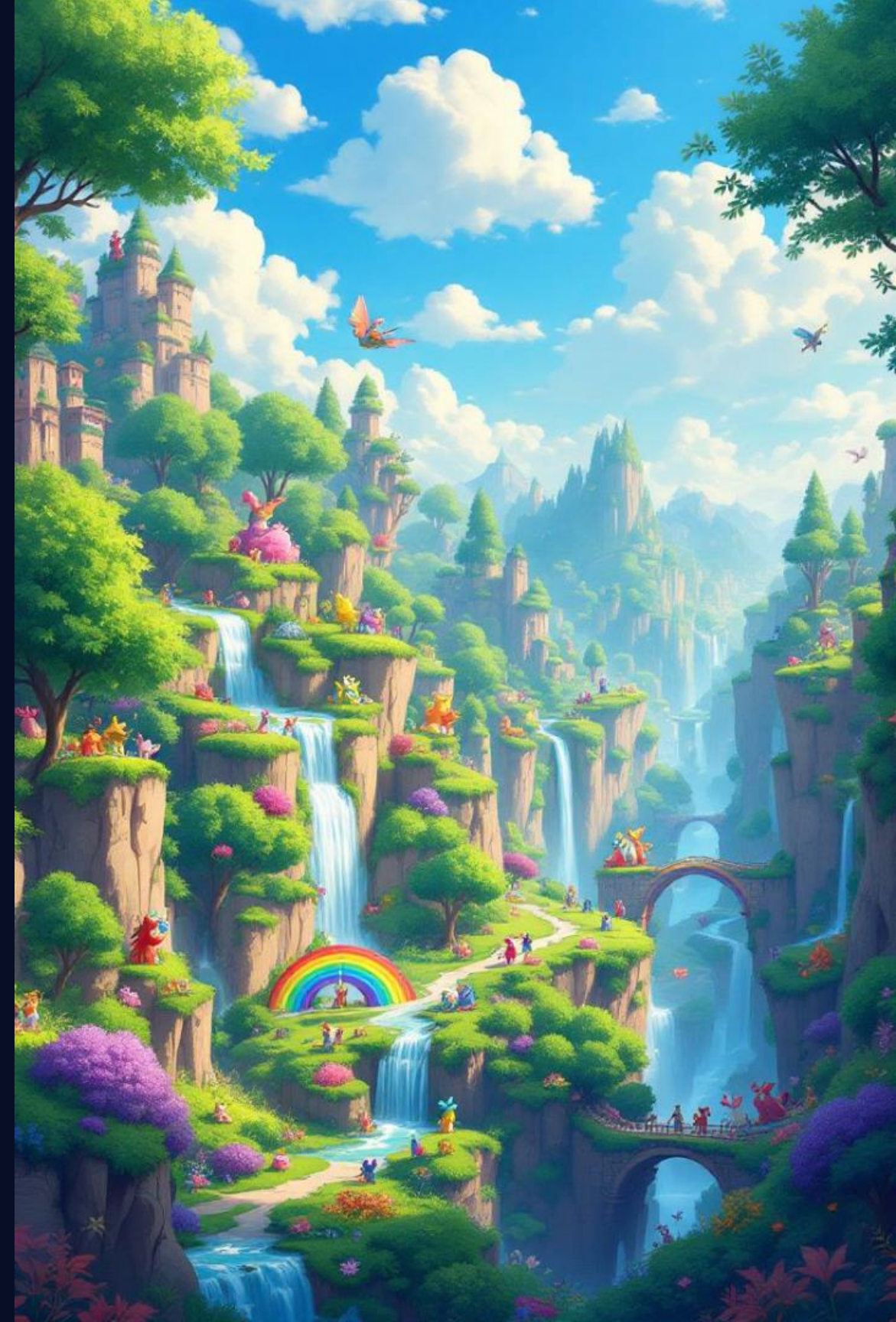
Using the Smudge Tool or low-opacity brushes to soften transitions creates a seamless look. This is important for achieving a natural flow in the painting, especially in atmospheric elements like the sky and water.

Add Atmospheric Effects

Incorporating mist, haze, or glow enhances realism. This step is crucial as it contributes to the overall mood and depth of the scene, creating a more engaging visual experience.

Check Overall Balance

Zooming out to assess the painting helps identify areas needing attention. This is important for ensuring a harmonious composition, as it allows you to see the piece as a whole and make necessary adjustments.



Step-by-Step Guide for Digital Painting.

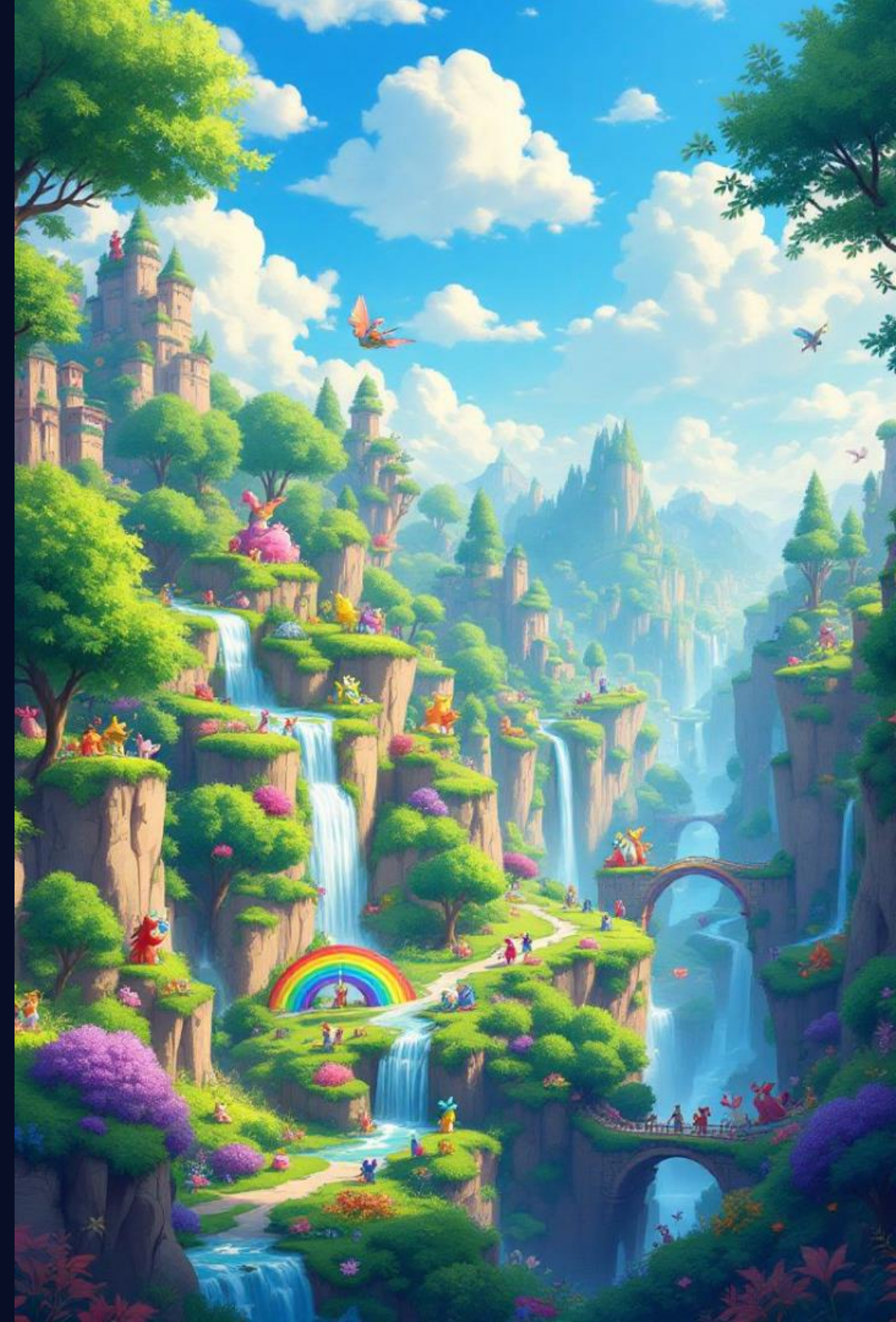
8 Save and Export Your Artwork

Save as PSD

Saving your work as a PSD file preserves layers for future editing. This is essential for maintaining flexibility in your workflow, allowing you to revisit and modify your artwork without starting over.

Export as JPEG/PNG

Once satisfied, exporting the final painting in the appropriate format is crucial for sharing or printing. Choosing the right format ensures that your artwork retains its quality and is suitable for various applications, from digital sharing to physical displays.



Layer Masking and Blending Modes

Non-Destructive Editing

Utilize layer masks to make adjustments without permanently altering your underlying artwork.

Blending Modes Mastery

Experiment with different blending modes to achieve unique color interactions and visual effects.

Compositing Techniques

Combine multiple elements and layers to create complex, layered digital paintings.

Non-Destructive Workflow

Develop a versatile, non-destructive workflow to maintain flexibility and creative control.





Perspective and Composition

1

Vanishing Points

Understand the principles of linear perspective and how to utilize vanishing points for realistic depth.

2


Dynamic Composition

Explore techniques for creating captivating, visually engaging compositions that guide the viewer's eye.

3

Spatial Awareness

Develop a keen eye for spatial relationships and proportions to achieve a sense of depth and scale.



Lighting and Shading Techniques



Directional Lighting

Learn to manipulate light sources to create dramatic, atmospheric lighting in your digital paintings.



Focal Point Emphasis

Use strategic lighting and shading to draw the viewer's attention to the focal points of your artwork.



Reflections and Shadows

Incorporate realistic reflections and shadows to add depth, dimensionality, and a sense of realism.



Mood and Atmosphere

Experiment with lighting and shading to evoke specific moods and atmospheres in your digital paintings.

Digital Painting Workflow Summary

1

Concept Development

Start with a clear vision and brainstorm ideas to develop a strong conceptual foundation.

2

Sketching and Composition

Explore different compositions and refine the overall structure of your digital painting.

3

Color and Lighting Studies

Experiment with color palettes and lighting setups to establish the desired mood and atmosphere.

4

Painting and Refinement

Bring your digital painting to life through careful brushwork, layer management, and continuous refinement.

1.



2.



4.



Advanced Techniques and Experimentation

Photoshop Scripting

Automate repetitive tasks and streamline your digital painting workflow.

3D Integration

Combine 2D digital painting with 3D elements for unique composite artworks.

Procedural Textures

Generate dynamic, procedural textures to add complexity and visual interest.

AI-Assisted Painting

Explore the potential of AI-powered tools to enhance and accelerate your digital painting process.





References

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