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Computer Graphics and Animations

ADOBE PHOTOSHOP 9

Advanced Typography & Brushes; 3D & Motion Graphics in Photoshop

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ASSKM

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Advanced Typography Tips

- Two main type tools: ***Horizontal Type Tool*** and ***Vertical Type Tool***
- Two basic type modes: **Point Type** (click) and **Area/Paragraph Type** (click&drag)
- Accessing type options through the **Type Menu**, offering multiple text manipulation features
- Common panels include: **Character Panel**, **Paragraph Panel**, and **Glyphs Panel** for fine adjustments
- Text orientation can be toggled between horizontal and vertical formats
- Converting text into a path using **Create Work Path;** useful for design workflows
- **Convert to Shape**: transforming text into editable vector shapes with anchor points
- **Warp Text**: applying predefined distortions such as arc, flag, and bulge, with control over bend and distortion

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Adobe Fonts & Font Management

- **Adobe Fonts** (formerly **Typekit**) offers a large font library; accessible via a **Creative Cloud subscription**
- Fonts are grouped into **families** with various styles (bold, italic, condensed)
- Previewing sample text across fonts and adjusting preview size and input
- Using filters to sort by **language**, **style tags** (calligraphic, clean), and using **Variable Fonts**
- **Variable fonts** support dynamic adjustment of properties like weight and width
- Adding fonts by selecting **Add Family** or individual styles from the Adobe Fonts site
- Licensing typically supports both **personal and commercial use** of Adobe Fonts
- Adobe Fonts interface includes information on **font designers** and **usage rights**

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Font Classification & Filtering

- Fonts are categorized into types: **Serif**, **Sans Serif**, **Slab Serif**, **Script**, and **Handwritten**
- Filtering fonts based on **font family types** within Adobe Fonts or locally installed fonts
- Font families include **multiple variations**; filtering by number of styles available (23+ styles)
- Additional filtering options include **width**, **height**, **contrast**, and **italicization**
- Searching fonts by name; not all fonts may be found in Adobe Fonts
- Similar font suggestions may appear when an exact match is not available
- Once a font is added, it becomes immediately available for use within Photoshop

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Avanced Font Features & Glyph Panel

- Filtering fonts by **class**, including **Monospace**, **Serif**, **Sans Serif**, etc.
- Marking fonts as **favorites**, making them easily filterable through a star icon
- Applying filters to show only **Adobe Fonts** or fonts with similar styles
- The **Similar Fonts** feature recommends alternatives visually close to the selected font
- The **Glyphs panel** shows alternate character designs within a font family
- Some fonts offer glyphs in **Latin**, **Greek**, and **other languages**, enhancing typographic versatility
- Adding glyphs by double-clicking and modifying individual characters artistically
- Avoiding glyphs overuse for readability and aesthetic balance

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Identifying Fonts from Images

- Photoshop offers tools to identify fonts from images using **Match Font** and **Adobe Fonts**
- Starting by opening images from the project folder
- Accessing **Match Font** feature via *Type menu* for automatic font detection
- Selecting up to three lines of text for analysis; simpler fonts yield better matches
- Photoshop suggests system and Adobe fonts with visual previews for comparison
- Rasterized or flattened text layers can still be analyzed for font detection
- Adobe Fonts allow uploading an image, selecting a text line, and directly activating matched fonts
- Font recognition accuracy depends on image clarity, text simplicity, and proper selection

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Using Styles to Enhance Workflow

- **Styles**: pre-made layer effects; quickly applied to text, shapes, or image layers
- Accessing the **Styles Panel** via the *Window* > *Styles* menu
- Styles include combinations of effects such as **Bevel & Emboss**, **Stroke**, **Drop Shadow**, and **Patterns**
- Categories include **Fabric**, **Fur**, **Neutral**, and **Basics**
- Creating a **custom style** by configuring layer effects in the **Layer Style Panel** and saving via *New Style*
- Adding custom styles to the library, grouping in folders, reusing across projects
- **Importing** and **exporting** styles to enable sharing or selling of unique designs
- Using styles helps streamline design workflows and ensures visual consistency across elements

Creating Custom Brushes

- Creating a new, 6x6 inch, 300-ppi document for demonstration
- Brushes in Photoshop are based on luminance: black **reveals**, white **conceals**
- Opposite behavior compared to layer masks, where white reveals and black conceals
- Drawing desired shapes using the *Brush Tool* with 100% hardness in black
- Drawing multiple brush shapes on the canvas (dots, lines, strokes)
- Using the *Rectangular Marquee Tool* to select a shape
- Saving the selection as a custom brush via *Edit* > *Define Brush Preset*
- The preview inverts the black-and-white image, turning black shapes into brush marks

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Using & Enhancing Custom Brushes

- Selecting the custom brush from the Brushes panel and painting on a new layer
- Using **Brush Settings** to adjust behavior: Shape Dynamics, Scattering, etc.
- **Size Jitter** changes brush size per stroke; **Angle Jitter** varies orientation
- **Roundness Jitter** introduces shape distortion for variation
- **Scattering** spreads brush marks
- **Count** adjusts density
- **Transfer** controls opacity variability per stroke
- Locking Transparent Pixels and rasterizing a shape layer to paint within it
- Exporting brushes via **Export Selected Brushes** for reuse

Introduction to Puppet Warp Tool

- **Puppet Warp** allows precise image distortions using a mesh overlay
- Isolating the subject from the background using *Object Selection Tool*
- Duplicating the subject layer and placing it above a custom background
- Converting the subject layer into a Smart Object for non-destructive editing
- Accessing Puppet Warp via *Edit* > *Puppet Warp*
- **Pins** added at key points (joints) to control movement
- Movement occurs by dragging pins, creating realistic or exaggerated deformation
- Modes: **Normal** (default), **Rigid** (limited flexibility), **Distort** (exaggerated warping)

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Adding Extra Brushes from Adobe

- Adobe provides free, **professional-grade brushes** with an active Creative Cloud subscription
- Accessing via: *Brushes Panel > Hamburger Icon > Get More Brushes*
- Redirecting to Adobe’s website featuring brush sets by **Kyle Webster**
- Kyle Webster's brushes: industry-standard, used by major studios like Disney
- Previously paid, now free as part of Adobe's acquisition and integration
- Brush categories include **charcoal**, **halftone**, **spatter**, and many more
- Downloading desired brush packs directly from the Adobe website
- Installing brushes and importing into Photoshop via **Import Brushes** option

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Testing Extra Brushes from Adobe

- Creating a new document (11×8 inches, 300ppi) to test brushes
- Using **charcoal brushes** for realistic drawing and shading; adjusting **flow** for control
- **Halftone brushes** provide ready-made tone patterns; ideal for comics and stylized effects
- **Spatter brushes** simulate ink or paint sprays; useful for dynamic textures
- Some brush packs (like halftones) are large and may slow down performance
- Brushes are **niche-specific** (drawing, texture, tone effects)
- Using **blend modes, color adjustments**, and **flow settings** to refine output
- **Heavy brushes** can be removed to optimize performance (if not used)

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Introduction to Perspective Warp Tool

- ***Perspective Warp Tool*** enables alignment of objects to existing scene perspectives
- Importing images for demonstration (paper box and road background) and converting objects to **Smart Objects** for non-destructive editing
- Navigating to *Edit* > *Perspective Warp* to activate the tool interface
- Tool consists of two main modes: **Layout** (**L** key) and **Warp** (**W** key)
- Creating a mesh by clicking and dragging corner points to match object edges
- Meshes can **snap together** by aligning sides; blue lines indicate snapping points
- Toggling to **Warp mode** to adjust perspective by dragging corner handles
- Holding **Shift** and click to constrain edges to straight lines (highlighted in yellow)

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Applying Perspective Warp & Additional Edits

- Real-time manipulation to better integrate objects within the scene
- After warping, perspective can be fine-tuned by moving individual points
- Demonstrating edits using the **glass building image** with dual-sided mesh setup
- Ensuring **parallel alignment** of lines to enhance realism in transformation
- Final adjustments involve shifting points for a desirable visual effect
- Optional sky cleanup using the *Clone Stamp Tool*: sampling with **Alt** (**Option**) and painting affected areas
- Before-and-after comparisons showing the significant impact of this tool
- Perspective Warp supports both **creative manipulation** and **realistic compositing**

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Introduction to Vanishing Point Workflow

- Opening two images: the complex perspective image and the illustration image
- Avoiding using the *Perspective Warp Tool* due to complexity; using **Vanishing Point Filter** instead
- Unlocking the background layer before applying the Vanishing Point filter
- Accessing the filter via *Filter* > *Vanishing Point* to launch the special interface
- Using the *Create Plane Tool* to define the base perspective grid on the image
- Adjusting plane alignment carefully until the guidelines turn blue, indicating valid geometry
- Zooming in for precision; using the *Edit Plane Tool* for refinements
- The Vanishing Point window includes tools like marquee, stamp, brush, eyedropper, zoom, and pan

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Transforming Images in Perspective

- Creating additional planes by clicking and dragging from existing ones to build full geometry
- Pressing **OK** to commit the perspective setup after all planes are defined
- Selecting the illustration image using **Ctrl/Command + Click** on the thumbnail, then copying with **Ctrl/Command + C**
- Creating a new layer and reopening the **Vanishing Point Filter**
- Pasting the illustration image within the Vanishing Point window
- Using the *Transform Tool* to resize, rotate, and position the image into the defined planes
- Duplicating the image using **Alt/Option + Drag** to place multiple instances within the scene
- Adjusting placements for realism and committing changes by pressing OK

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Blending & Masking with Grunge Texture

- Grouping duplicated illustration images and reducing opacity slightly for blending harmony
- Importing and unlocking the **grunge image**; copying it after selecting its thumbnail
- Creating a new layer, entering **Vanishing Point Filter**, and pasting the grunge
- Using the *Transform Tool* again to align and scale the grunge in perspective
- Committing and copying the grunge layer; pasting into the illustration's **layer mask** using **Ctrl/Cmd + Shift + V**
- Inverting the mask with **Ctrl/Cmd + I** to reveal key illustration details and blend the texture
- Using brushes for refining edges and achieving organic blending effects
- Evaluating results with layer visibility toggles

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Introduction to 3D in Photoshop

- **3D** was a major feature in Photoshop; Adobe began phasing it out in 2022
- Recent Photoshop versions no longer include 3D; older versions required to access it
- Functionality depends on compatible graphics hardware; unsupported systems may not show 3D even in older versions
- 3D in Photoshop refers to objects with length, breadth, and height - adding volume beyond 2D
- The workspace changes when entering the 3D environment; switching back to Essentials workspace suggested (after finishing)
- Creating **3D from text** using several methods: Type menu, 3D menu, or 3D panel
- After applying 3D to a text layer, depth is visibly added, and specialized 3D controls become available

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Navigating & Manipulating 3D Layers

- The **3D workspace** includes tools for moving, rotating, sliding, and scaling 3D objects
- **3D Layers Panel** shows components like Scene, Environment, Camera View, Infinite Light, and Object Layer
- Each object and light source can be individually manipulated using the 3D transform tools
- Editing Mesh, materials, and lighting properties through the **Properties panel**
- Editing Material layers individually (front, sides) for visual customization
- Filtering environment and lighting; adjusting them
- Right-clicking options on **Scene** or **Object** to reveal mesh and material settings
- Understanding these components is essential for full control over 3D compositions

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Creating 3D Objects from Custom Shapes

- Photoshop allows users to create **3D layers from custom shape layers**
- Using **Layers Panel** to draw, resize, and adjust colors of a custom shape
- Turning the shape into a 3D object via *3D > New 3D Extrusion from Selected Layer*
- The **Properties panel** controls extrusion depth and other 3D settings
- Choosing from **preset extrusion styles** to vary the shape's appearance
- The *Rotation Tool* allows 360-degree viewing of the 3D object
- Complex forms like a flower vase can be modeled from simple 2D shapes

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Creating 3D Objects from Custom Shapes

- **Mesh presets** (cube, cone, donut, hat, etc.) for creating 3D from layers
- Choosing *3D* > *New Mesh from Layer* to wrap image textures onto 3D objects
- The **Cube Wrap** preset applies the texture to all sides, unlike the standard cube
- The **Postcard** preset creates flat 3D surfaces without depth
- Photoshop supports **default 3D models** like soda cans, wine bottles, and pyramids
- Exporting created 3D layers in formats like **OBJ**, **STL**, and **Collada** for external use
- **Importing external 3D models** (OBJ files from Maya or 3ds Max)

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Enhancing Realism – Light, Shadows & Rendering

- Material properties such as **metallic**, **roughness**, and **opacity** affect realism
- Adjusting **IBL (Image-Based Light)** to match the background lighting and reflections
- Controlling shadows through **Infinite Light** and repositioning with the ***Move tool*** **+ Shift**
- Increasing shadow softness for a more natural appearance
- Clicking **Render** to initiate calculation of lighting, materials, and shadows
- Rendering quality depends on system performance and scene complexity
- Resetting and cropping the image composition to match the perspective of the scene
- Accurate shadow alignment is assisted by the **Move to View** function

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Finalizing 3D Object Placement & Mesh Properties

- 3D objects can be rotated, resized, and positioned based on the desired visual result
- Rendering final composition to confirm if the object is properly superimposed
- **Superimposing** involves integrating a 3D object into an existing 2D image
- Toggling shadows: **cast shadows** refer to those projected onto surfaces
- **Shape presets** allow for quick alterations like inflation or extrusion depth
- **Mesh properties** also allow twisting, tapering, and deformation of shapes
- **Bevel settings** (width, angle) enhance surface detail and realism
- **Resetting transformations** to return to default object parameters

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Lighting, Environment & Scene Settings in 3D

- Light types include **infinite light** (like sunlight), **spotlight**, and **point light**
- Light properties allow shadow softness adjustment and orientation matching the view
- **Environment** settings include ambient color and image-based lighting (IBL)
- Enhancing environmental realism with Shadow, reflection, and ground plane controls
- Scene optimizations like **bounding box** to reduce performance load on complex projects
- Viewing modes include **wireframe**, **normals**, and **line illustration** for better object control
- **Adjusting coordinates** for mesh, lights, environment, and overall scene
- **3D Printing Panel** available for exporting objects directly to supported printers

Exercise 1

- Open the background image and resize it to 23 inches width to reduce file size
- Create a new layer and apply *3D* > *New Mesh from Layer* > *Mesh Preset* > *Wine Bottle*
- Navigate to the **3D Layers Panel** to manage bottle, label, and cap components
- Adjust the position of the bottle in the scene using the *3D Slide Tool* and scale appropriately
- Modify cap material: dark red base/interior, 0% roughness, 13% metallic
- Apply **Glass Smooth preset** to bottle; set base/interior color to magenta shades, opacity to 24%
- Edit label texture: insert PNG label, add background and gold strip design
- Set label material: 0% roughness, 16% metallic for light reflection

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Exercise 1

- Update the scene environment by copying the background as an IBL (Image-Based Light) texture
- Reduce environment light intensity to 60%; adjust infinite light with 30% shadow softness and 90% intensity
- Test render the scene to preview materials and reflections
- Refine bottle cap: increase metallic to 23% and darken color for realism
- Perform a **high-quality final render** using JPEG, max quality, retrace final, and threshold 5
- Import the rendered image for final edits via **Camera Raw Filter**
- Enhance clarity, texture, reduce shadow concentration, and adjust contrast/vibrance
- Save the edited image; save project file for future adjustments

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Creating Gradient 3D with the Mixer Brush Tool

- Setting up a new document (16x11 in, 150 ppi) for demonstration
- Using the *Ellipse Tool* to draw shapes with different gradient fills
- Duplicating ellipses multiple times to create variety
- Applying distinct gradients to each duplicated ellipse
- Rasterizing all shape layers to enable painting functionality
- Merging rasterized ellipses into a single layer
- Preparing to use the *Mixer Brush Tool* on this unified layer
- Ensuring **Sample All Layers** is turned off before sampling

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Mixer Brush Settings & Painting Techniques

- Activating the *Mixer Brush Tool* with the following settings:
  - Load: 100%, Flow: 100%, Smoothing: adjustable (5-24%)
- Choosing a preset like **Dry Heavy Load** to begin
- **Alt-clicking** to sample gradients from the merged shape layer (**Option** on Mac)
- Using a drawing tablet for more natural strokes and control
- Creating a new layer for brush strokes to stay non-destructive
- Experimenting with writing and forms to observe the pseudo-3D effect
- Trying different presets (Wet Heavy Mix) for varied results
- Adjusting brush size and smoothing for artistic flexibility

Exercise 2

- Go to *File* > *Open* and select the PSD image of the woman dancing
- The subject is already cut out from the background in the file
- Press **Ctrl/Cmd + J** to duplicate the subject layer
- Select the *Mixer Brush Tool* and increase brush size to around 370 px
- Hold **Alt** and click on the clothing to sample colors (yellow, orange, blue)
- Set brush mode to **Dry, Heavy Load** and create a new layer for painting
- Begin painting colorful strokes around the subject to form an abstract design
- Paint behind the subject, then create new layers for strokes in front

Exercise 2

- Use the *Lasso Tool* to isolate the hand and lower body for layer separation
- Move layers so strokes appear to **pass behind and in front** of body parts
- Create a new layer above the stroke layer, clip it to the strokes (**Alt + click**)
- Add shadows where elements overlap to increase realism and coherence
- Use black brush on a clipped layer to paint shadows subtly
- Apply layer mask to soften harsh edges and remove unwanted lines
- Adjust opacity and blending modes for realistic shadow blending
- Repeat for all key overlap points: hand, body, and head interaction with the effect
- Final result is a visually integrated 3D composition achieved using mixer brush and shadows

Introduction to Video Editing in Photoshop

- Photoshop supports **basic video editing and animation**
- Importing videos via *File* > *Open* or by **drag-and-drop**, appearing on the **Timeline Panel**
- The **Timeline Panel** allows frame-by-frame control and basic video manipulation
- **Video layers** grouped under the Layers panel as a **Video Group**, enabling organization and visibility toggles
- Applying common tools like **Crop** to videos, just like with images
- Timeline features include:
  - **Zoom slider** for precise editing
  - **Playback controls** and **frame rate info** (25 fps)
- Videos are made of frames; **25 fps = 25 images per second**

Editing Techniques & Enhancements

- Using the **scissors icon** to cut video clips at specific points
- **Deleting unwanted sections** to shorten the clip
- Adding **audio (MP3)** to the timeline for background music
- Audio can be **trimmed**, **volume adjusted,** and include **fade-in/out** effects
- Right-clicking on video for options like:
  - Speed and duration adjustments
  - Slow motion or fast-forward
- Adding **transitions** (Fade with White/Black) between clips or at start/end
- Transitions are **click-drag elements** whose duration can be customized
- Playback may lag initially due to rendering; once cached, it plays smoothly

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More Editing Features & Text Animation

- Photoshop video editing has limitations compared to **Premiere Pro**
- Playback resolution options: 50% or 100%
- Importing video/audio files (MP4, MP3) directly into the timeline for editing
- Adding and positioning text layers over video is straightforward; text can be resized and aligned
- Applying layer styles to text for visual enhancements
- The **stopwatch icon** enables **keyframe animation** for properties like transform and opacity
- Keyframes define start and end states for animations (scale increasing or opacity fading)
- Photoshop supports simple opacity animation with keyframes to fade text in/out

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Color Adjustments, Exporting & Workflow Tips

- Adjustment layers like **Vibrance** and **Color Lookup** enhancing video colors without affecting other layers
- Blending modes adjusting how color adjustments interact with video layers
- Applying additional Photoshop adjustments (levels, curves) but may slow performance due to video file size
- Text, shape, and adjustment layers can be grouped and organized
- Exporting videos via the **export icon**; selecting **H.264 format (MP4)** for compatibility and quality
- Choosing preset quality options; high-quality recommended for final output
- Rendering time varies based on complexity and system resources
- Experimenting with brushes, effects, and animations for creative video editing

Exercise 3

- Open the project folder and display all file formats for easy selection
- Select the mountain image, sky image, and flying object image
- Import sky and flying object images as Smart Objects to preserve quality during transformations
- Place the sky layer below the mountain and scale it appropriately to fit the canvas
- Adjust the sky’s brightness using Curves adjustment to enhance the background visually
- Resize the canvas to 1920x1920 pixels for manageable animation size
- Enable the Timeline panel and create a new Video Timeline for animation work
- Organize layers properly and hide unused layers for clarity during animation

Exercise 3

- Animate the mountain layer by scaling and moving it to create depth; set keyframes for transformation
- Animate the sky layer with subtle movement at slower speed to simulate distant background shift
- Animate the flying object layer: scale, rotate, and move it to simulate hovering behind the mountain
- Adjust keyframe timing for smooth transitions and realistic speed variations between layers
- Preview the animation to allow proper rendering and smooth playback
- Move flying object layer beneath mountain layer to achieve the proper effect
- Save the project as a PSD file for future editing and backup
- Export animation as MP4 video, maintaining quality and manageable file size

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Questions & Answers Homework

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