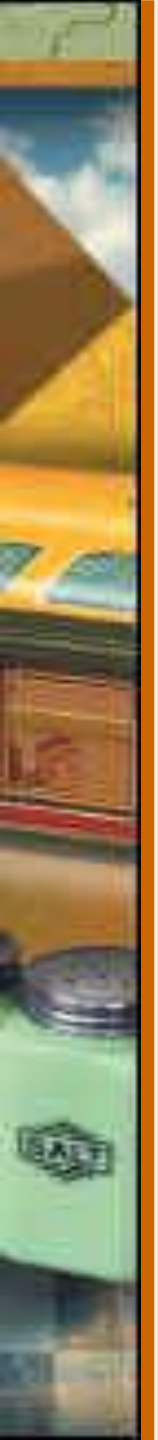
CHAPTER D

Adobe Photoshop CS Design Professional

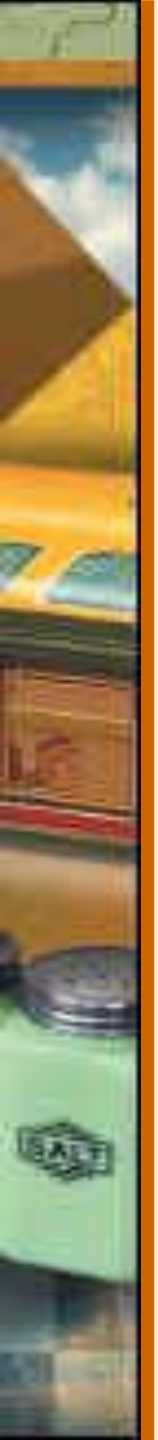
INCORPORATING COLOR

TECHNIQUES



Chapter Lessons

- Work with color to transform an image
- User the Color Picker and the Swatches palette
- Place a border around an image
- Blend colors using the Gradient Tool
- Add color to a grayscale image
- Use filters, opacity, and blending modes
- Match colors



Incorporating Color Techniques

Using Color

- Develop an understanding of color theory and color terminology
- Identify how Photoshop measures, displays and prints color
- Learn which colors can be reproduced well and which ones cannot

Color Modes

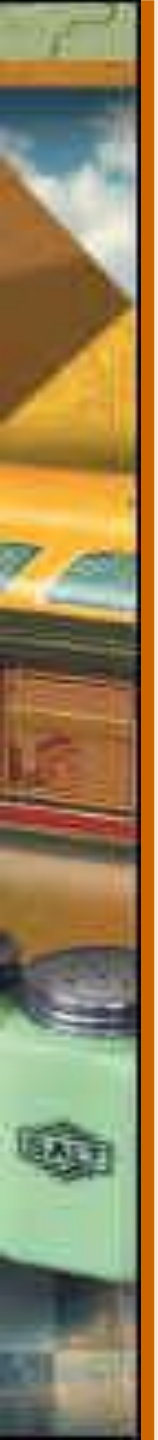
- Photoshop displays and prints images using specific color modes
- Color mode or image mode determines how colors combine based on the number of channels in a color model
- Different color modes result in different levels of color detail and file size
  - CMYK color mode used for images in a full-color print brochure
  - RGB color mode used for images in web or e-mail to reduce file size while maintaining color integrity

Color Modes

- L*a*b Model
  - Based on human perception of color
  - Numeric values describe all colors seen by a person with normal vision
- Grayscale Model
  - Grayscale mode uses different shades of gray
- RGB (Red Green Blue) Mode used for online images
  - Assign intensity value to each pixel
  - Intensity values range from 0 (black) to 255 (white) for each of the RGB (red, green, blue) components in a color image
    - Bright red color has an R value of 246, a G value of 20, and a B value of 50.
    - When values of all components are equal, result is a shade of neutral gray
    - When values of all components are 255, result is pure white
    - When the values are 0, pure black
- CMYK Cyan, Magenta, Yellow, Black prepares image for process colors
  - Pixel assigned a percentage value for each of the process inks
  - Lightest (highlight) colors are assigned small percentages of process ink colors
  - Darker (shadow) colors higher percentages
  - Bright Red: 2% cyan, 93% magenta, 90% yellow, and 0% black.
  - Pure white: all four components have values of 0%

Image Characteristics

- An image is a **bitmap**:
  - A geometric arrangement of different color dots on a rectangular grid
- Each dot is called a **pixel**:
  - Represents a color or shade



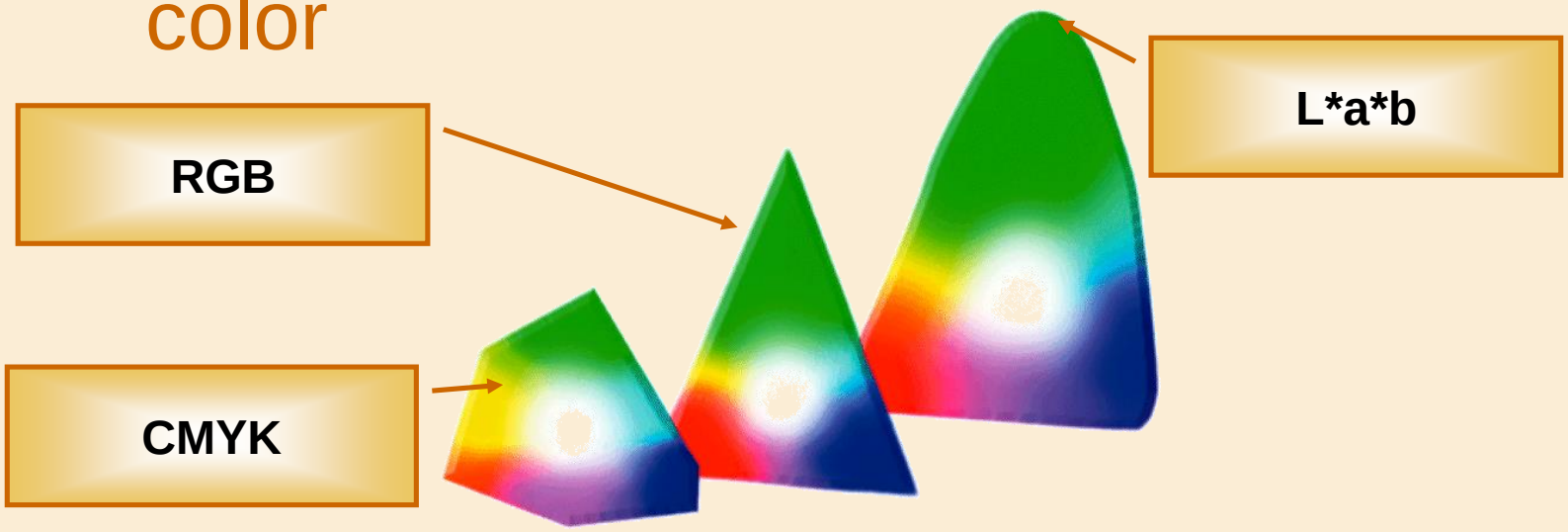
Understanding Resolution

- Bitmapped images are **resolution-dependent**
- Highly magnified bitmapped images can lose detail
- Images with high resolution show more detail and more subtle color transitions

Work with Color to Transform an Image

Working with Color Models

- Photoshop reproduces color using models of **color modes**
- A **gamut** is the range of displayed color

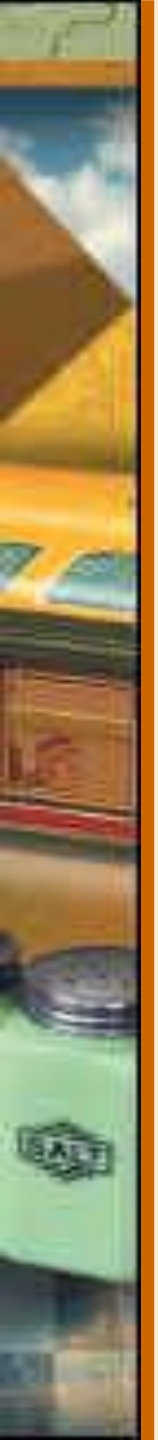


Color Psychology

	Safety and Stability
	Calming or Youthful
	Call to Action
	Purity and Luxury
	Power and Strength

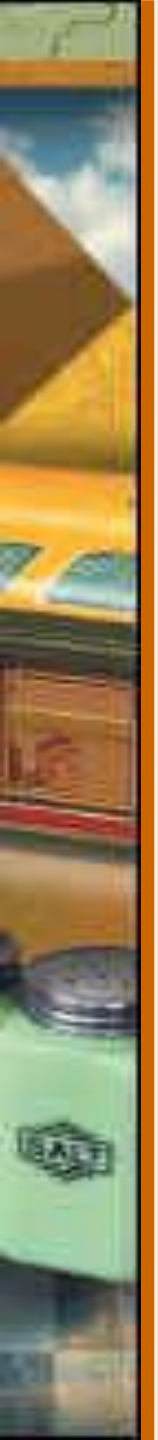
L*a*b Model

- Based on one luminance (lightness) component and two chromatic components
- Largest number of colors available with greatest precision
- Create all colors contained by other color models
- Device-independent: colors will not vary, regardless of hardware



HSB Model

- Based on the human perception of color
- HSB stands for **H**ue, **S**aturation, **B**rightness
- HSB model can be used to define a color on the Color palette or in the Color Picker dialog box
- HSB is not offered as a choice for creating or editing images



Hue in the HSB Model

- Color reflected from or transmitted through an object
- Hue is expressed as a degree
- Each hue is identified by a color name (e.g., red or green)

Saturation in the HSB Model

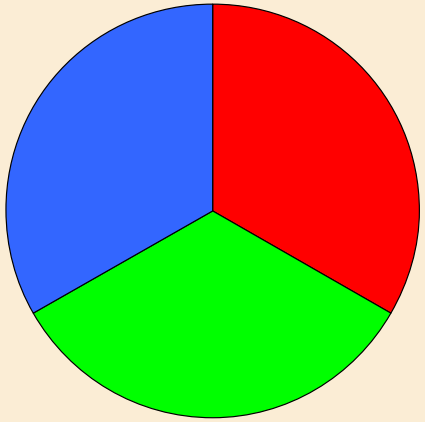
- Also known an **chroma**
- Strength or purity of the color, representing the amount of gray in proportion to the hue
- Measured as a percentage from 0% (gray) to 100% (fully saturated)

Brightness in the HSB Model

- Measurement of relative lightness or darkness of a color
- Measured as a percentage from 0% (black) to 100% (white)

RGB Mode

- **R**ed, **G**reen, **B**lue
- Most colors in the spectrum can be represented by mixing various proportions and intensities of Red, Green, and Blue colored light

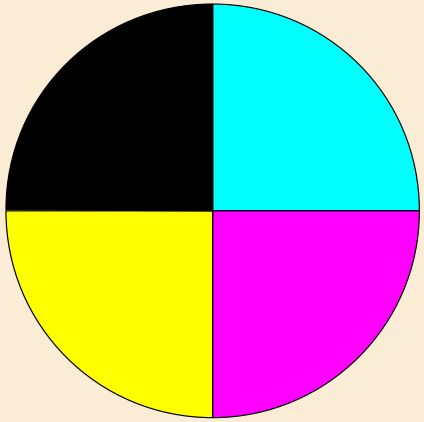


More on RGB Mode

- RGB colors are **Additive colors**
- Additive colors are used for lighting, video, and computer monitors
- Color is created by light passing through red, green, and blue phosphors
- RGB value of 0 = White
- RGB value of 255 = Black

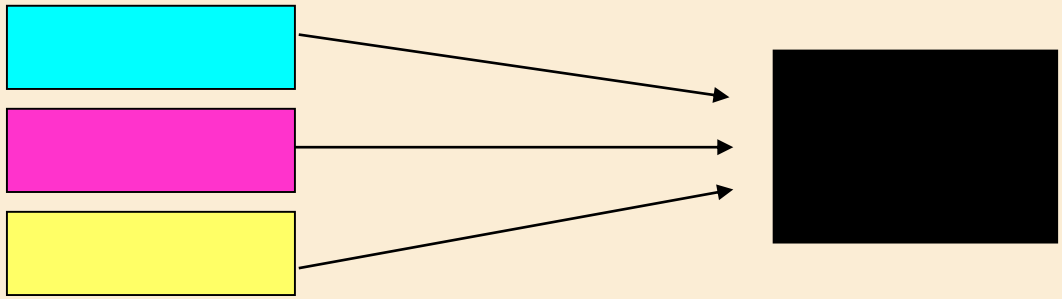
CMYK Mode

- **C**yan, **M**agenta, **Y**ellow, **B**lack
- Based on the light-absorbing quality of ink printed on paper
- Colors are partially absorbed as the ink hits the paper and then partially reflected back to your eyes



More on CMYK Mode

- CMYK colors are **Subtractive colors**
- The **absence** of cyan, magenta, yellow and black creates white
- When combined, cyan, magenta, and yellow produce black



More on CMYK Mode

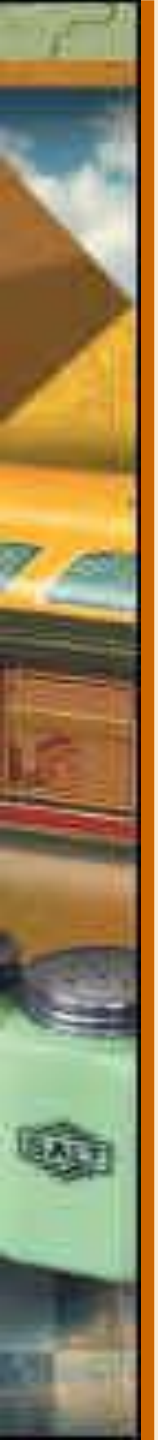
- CMYK mode is used in **four-color process** printing
- Convert an RGB image into a CMYK image to produce a **color separation**
- The computer monitor uses RGB mode so the exact CMYK colors are apparent only upon printing

Bitmap Mode

- Uses black and white color values to represent image pixels
- Good choice for images with subtle color gradations, such as photographs or painted images

Grayscale Mode

- Uses up to 256 shades of gray
- Assigns a brightness value from 0 (black) to 255 (white) to each pixel



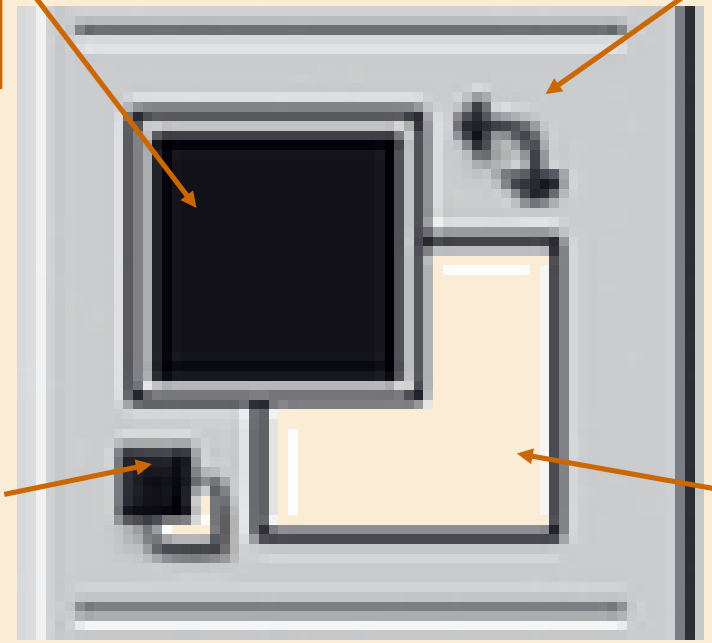
Foreground and Background Colors in Photoshop

- By default, the **foreground** color is **black**
- By default, the **background** color is **white**

Changing Foreground and Background Colors

- Change the foreground color using:
  - Colors palette
  - Swatches palette
  - Color Picker
  - Eyedropper tool
- Change the background color using:
  - Paint Bucket tool

Foreground & Background Color Buttons: Toolbox



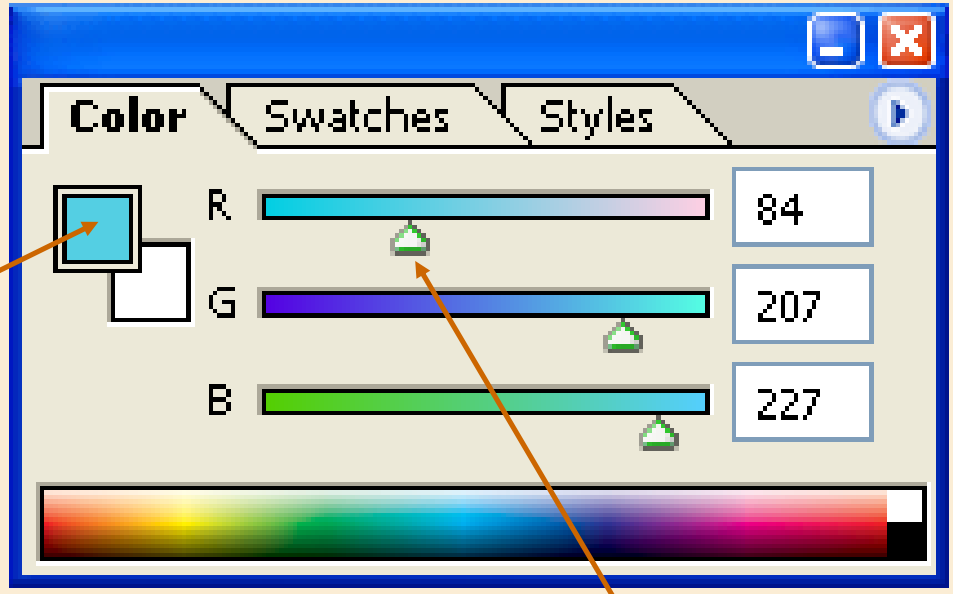
Set foreground color button

Switch Foreground and Background Colors button

Default Foreground and Background Colors button

Set background color button

Foreground & Background Colors: Color Palette



Active color selection box

Slider

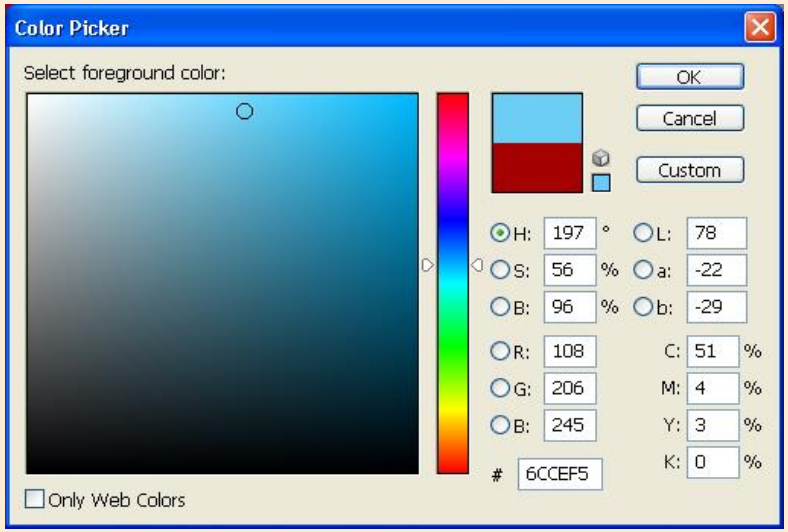
Using Ruler Coordinates

- Rulers run along the top and left sides of the document window
- The X coordinate: horizontal position
- The Y coordinate: vertical position
- X and Y coordinates appear on the Info palette
- Use coordinates to position images and colors precisely

Use the Color Picker and the Swatches Palette

Using the Color Picker

- Use the Color Picker feature to:
  - Choose a color from a color spectrum
  - Numerically define a custom color

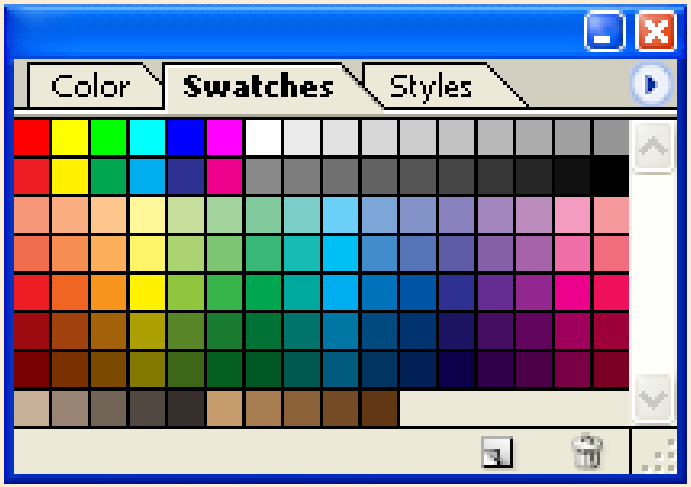


Color Picker Methods

- Drag the slides along the vertical color bar
- Click inside the vertical color bar
- Click inside the Color field
- Enter a value in any of the text boxes

Swatches Palette

- Visual display of colors you can choose from
- Can add new colors or delete colors



Place a Border Around an Image

Using Borders

- Use borders to emphasize an image
- Placing a border is called **stroking the edges**
- Default border color: current foreground color
- Use the Stroke dialog box to modify a border

Locking Transparent Pixels

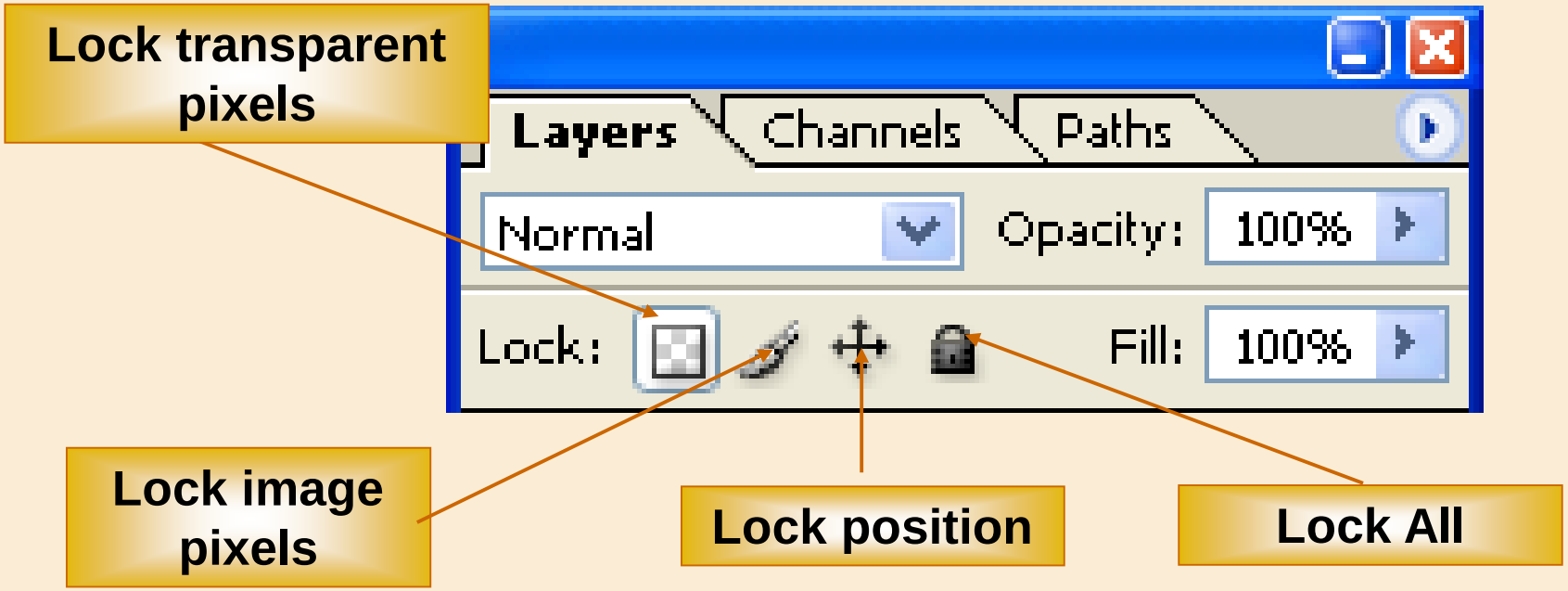
- Use the **Layers palette** to lock (protect) elements within a layer
- Lock transparent pixels when adding borders so that stray marks are not included in the stroke

Layer Properties to Lock

- Transparency
  - Limits editing capabilities to opaque areas
- Image:
  - Prevents the modification of layer pixels using painting tools
- Position
  - Prevents pixels from being moved

Locking Options

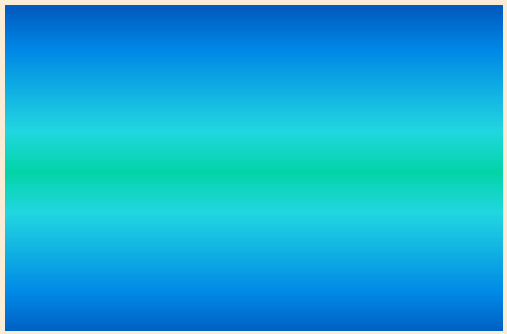
- Locking options are located on the Layers palette



Blend Colors Using the Gradient Tool

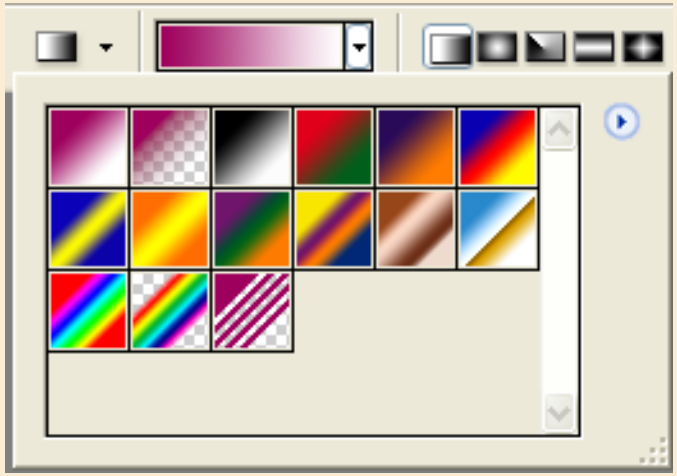
Blending Colors

- Use the **Gradient Tool** to blend colors
- A **gradient** is a blend of colors using to fill a selection of a layer or an entire layer

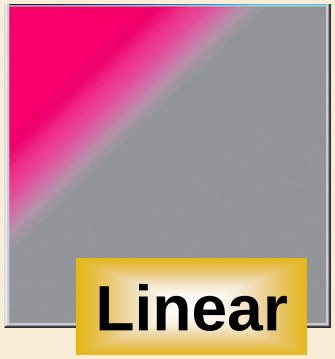


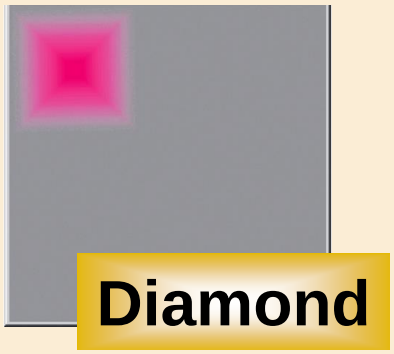
Gradient Picker

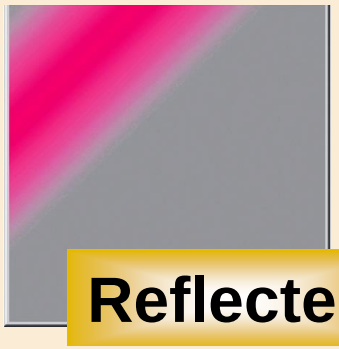
- Gradient Picker can be used to create dramatic effects

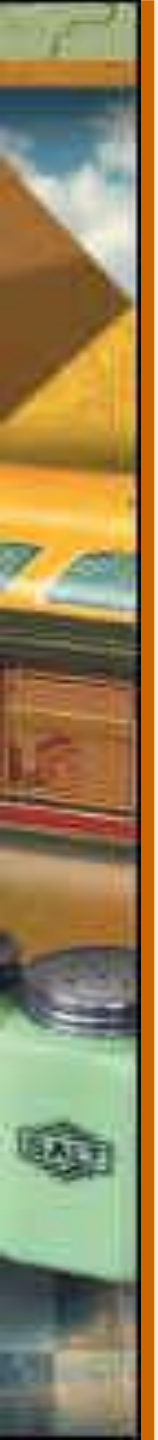


Five Gradient Styles









Customizing Gradients

- Create a new gradient from an existing gradient
- Modify an existing gradient
- Add intermediate colors to a gradient
- Create a blend between more than two colors
- Adjust the opacity values
- Determine the placement of the midpoint

Add Color to a Grayscale Image

Colorizing Grayscale Images

- Tint grayscale images with color to produce interesting effects
- Convert a color image to grayscale, choose a color mode, then apply color

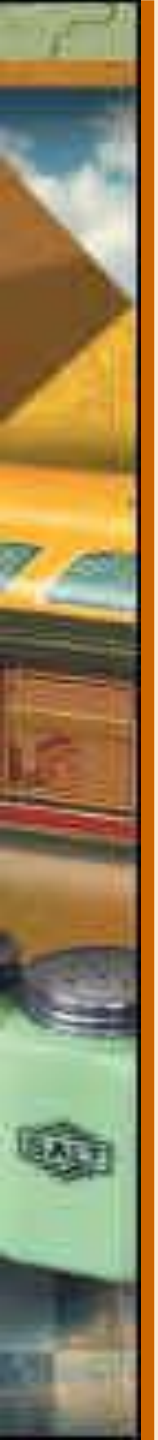
Use Filters, Opacity and Blending Modes

Using Filters

- Filters are used to significantly alter the appearance of an image
- Examples include the Watercolor filter and various Sharpen filters

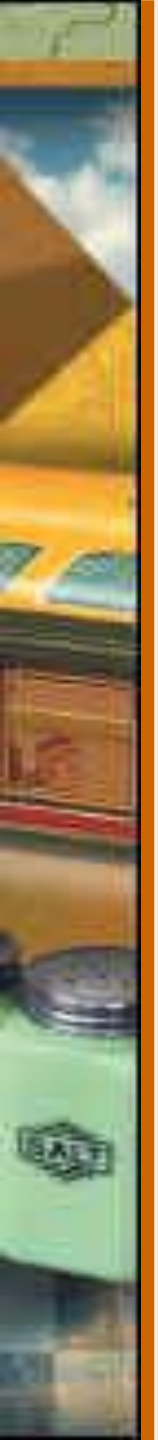
Understanding Blending Modes

- Controls how pixels are either made darker or lighter based on underlying colors
- When planning a blending mode, consider:
  - **Base color**: original image color
  - **Blend color**: color applied with a paint or edit tool
  - **Resulting color**: color created as a result of applying the blend color



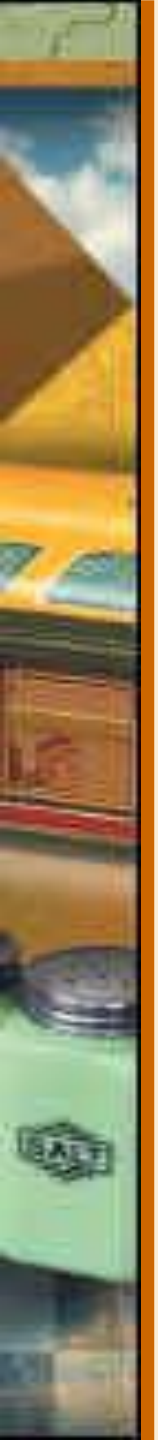
Blending Modes Available

- Dissolve, Behind, and Clear modes
- Multiply and Screen modes
- Overlay mode
- Soft Light and Hard Light modes
- Color Dodge and Color Burn modes



More Blending Modes

- Darken and Lighten modes
- Difference and Exclusion modes
- Color and Luminosity modes
- Hue and Saturation modes

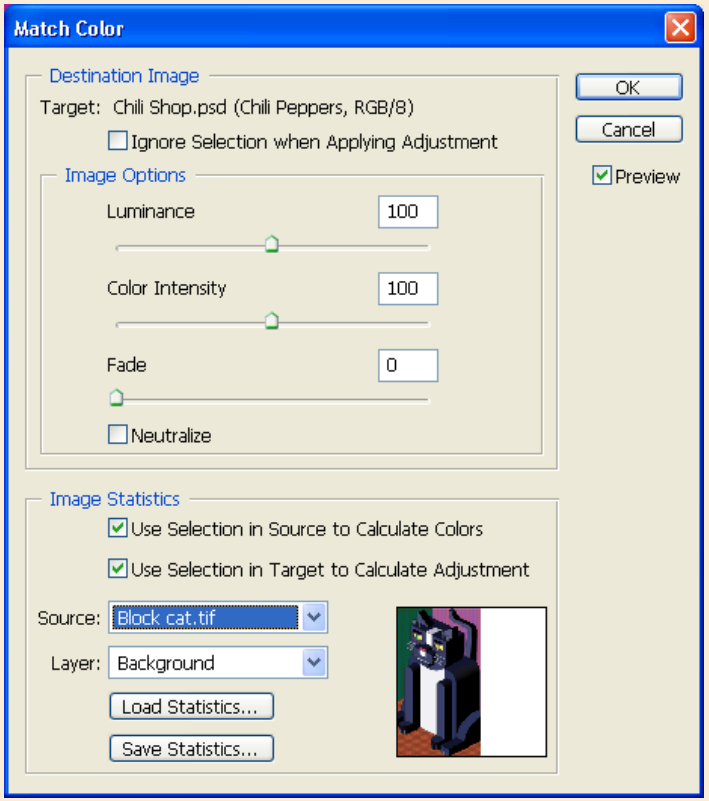


Matching colors

- Make a selection in the source image
- Make a selection in the target image
- Use the Match Color command

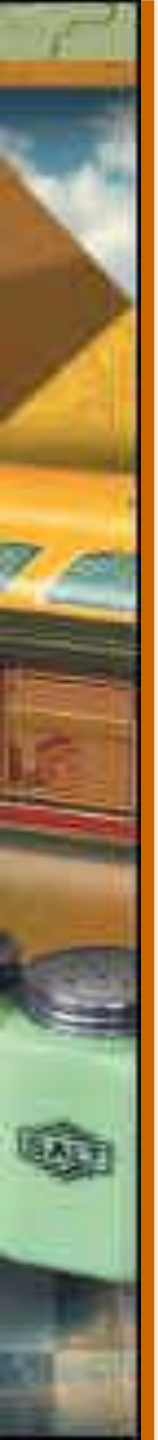
The Match Color command

- Click **Image** on the menu bar, point to **Adjustments**, then click **Match Color**



Chapter D Tasks

- Learn about color modes and models
- Use the Color Picker and Swatches palettes to apply color
- Use borders to emphasize an image
- Lock transparent pixels



Chapter D Tasks

- Use the Gradient tool to blend colors
- Add color to a grayscale image
- Identify and use filters
- Identify and use blending modes
- Match colors