

14 LESSONS IN COLOR

Week

Understanding how to manage color in your pictures will allow you to take charge of the relationship between colors and human emotions, and influence how the viewer responds to your subject.

In this module, you will:

- ▶ **see why color is important** to your compositions, and how different tones can change the mood of your work;
- ▶ **study the six main color harmonies:** complementary, analogous, triadic, split-complementary, tetradic, and monochromatic;
- ▶ **experiment** by using Picture Styles to adjust contrast, saturation, and tone;
- ▶ **explore color** by creating a monochromatic image, shooting at dawn and dusk, and focusing on one key color;
- ▶ **review your photos** and learn how to use colors for maximum impact;
- ▶ **improve** hue and saturation during post-production;
- ▶ **review** what you've learned about the aesthetic and emotional power of color.

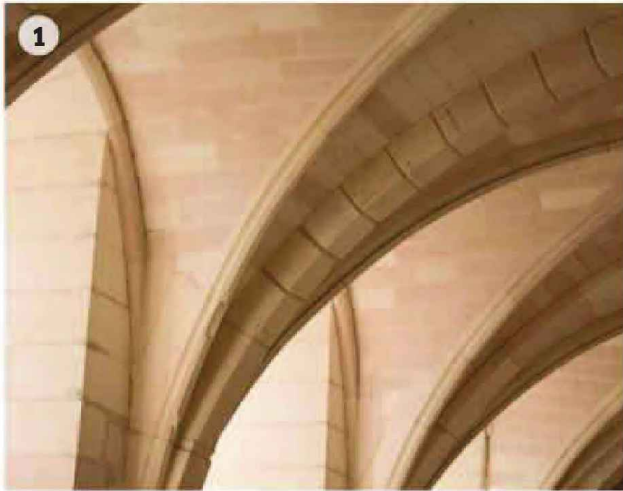
Let's begin...





▶ TEST YOUR KNOWLEDGE

The importance of color



Vivid colors, such as red, tend to dominate the frame even when used in small quantities, while neutral colors, such as beige, are restful and recessive. Read these descriptions and match each one to an image.

A Maximum contrast: Blue and yellow create a powerful contrast.

B Vivid colors: Complementary colors, such as orange and blue, are vibrant and grab attention.

C Pure hues: Colors that are not mixed with white, gray, or black can be more exciting to the eye.

D Small amounts: Strong colors, such as red, attract attention, even in small quantities.

E Neutral shades: Interior designers like neutral colors because they highlight texture.

F Low contrast: Low-contrast colors are perfect for revealing architectural details.

G Gentle tones Soft, neutral colors can be restful.

H Pastels: When soft colors are combined, the result can be soothing.

ANSWERS

- A/8: Yellow and blue hot-air balloon
- B/2: Bright orange chrysanthemum
- C/7: Colorful Indian powders
- D/5: Climber on a mountain ridge
- E/6: Pitcher of milk on a piece of cloth
- F/1: Stone arches
- G/3: Sound-asleep baby
- H/4: Close-up of sugared almonds



NEED TO KNOW

- Black is not strictly a color but rather the absence of color, while white is composed of all colors.
- Neutral colors, such as cream and stone, are recessive and make ideal blank canvases for interior designers.
- Complementary colors sit opposite each other on a color wheel, while analogous colors sit next to each other on the color wheel (see pp.236-237).
- Color can have a powerful psychological effect on the viewer. For example, blue is restful, while red is considered energizing.
- Some colors are perceived as being heavier than others—black, for instance, is often thought of as “weightier” than white.



Review these points and see how they relate to the photos shown here



▶ UNDERSTAND THE THEORY

Color relationships

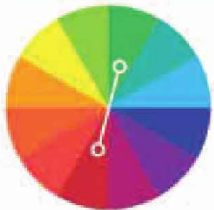
White light can be split into a rainbow of colors using a prism. The resulting spectrum can be expressed as a wheel divided into primary colors (red, yellow, and blue), secondary colors (orange, green, and violet), and tertiary colors (red-orange, yellow-orange, yellow-green, blue-green, blue-violet, and red-violet). Many of the choices we make about color are intuitive, but you can improve your images by better understanding color relationships and their impact.

i COLOR BASICS

- 1 PRIMARY**
Red, yellow, and blue are the primary colors in the traditional color wheel.
- 2 SECONDARY**
Made by mixing two or more primary colors, the secondary colors are orange, green, and violet.
- 3 TERTIARY**
Created by mixing a primary and a secondary color, or two secondary colors, together.



i COMPLEMENTARY COLORS

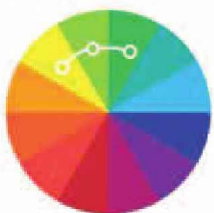


These colors sit opposite one another on the color wheel. If complementary colors in a scheme are pure hues (with no gray, white, or black added), they create maximum contrast. When they are put together, each makes the other more intense.



When used in large doses, complementary colors can tire the eyes, so consider using with caution.

i ANALOGOUS COLORS



These colors sit next to each other on the color wheel. Using small groups of analogous colors can create lovely compositions, but they harmonize so well that you might need to introduce tension.

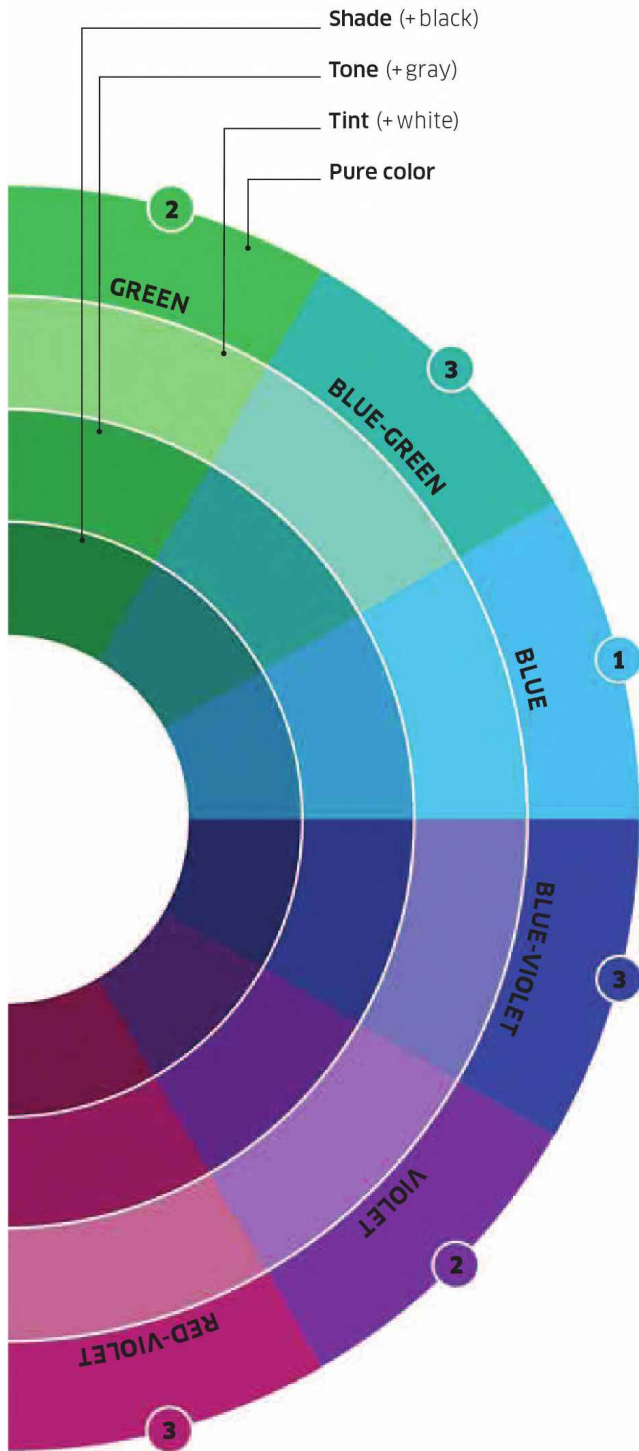


To strengthen a composition, add a primary color, or use one color to dominate, one color to support, and one to add an accent.

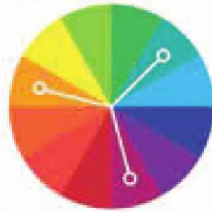
The color wheel illustrates the relationship between the colors.

“Colors speak all languages.”

JOSEPH ADDISON



TRIADIC COLORS

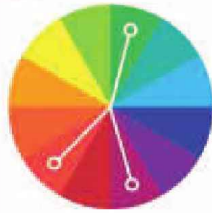


Schemes using three colors that are equidistant from each other on the color wheel are known as triadic. The triadic scheme produces good contrast while retaining a sense of harmony.



If all three colors are used in similar amounts, the result can be overpowering, so choose one color to dominate.

SPLIT-COMPLEMENTARY COLORS



This model echoes the complementary scheme by using one base color (such as green) and the two colors on either side of its complement (for red, this means orange and violet).



This mix displays strong contrast but less visual tension than images using two colors that are complementary.

TETRADIC COLORS

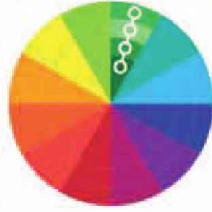


Four colors arranged in complementary pairs on the color wheel are known as tetradic colors. Balancing four strongly contrasting colors together is challenging but offers scope for variation.



Allow one color to dominate, or subdue the other colors by using them as tints, tones, or shades.

MONOCHROMATIC COLORS



Variations of the same hue (color) are referred to as monochromatic colors. The words tint, shade, and tone mean subtly different things: tint is a hue with white added; shade is a hue with black added; tone is a hue with gray added.



Monochromatic schemes (containing tints, shades, and tones of the same hue) can be very soothing due to the lack of contrast.



▶ LEARN THE SKILLS

Optimizing color



Sometimes the colors recorded by your camera don't produce the effect you desire. To keep post-production to a minimum, you can apply parameters to your pictures in-camera. For example, if your landscape lacks bright colors, you can boost the saturation before taking your shot.

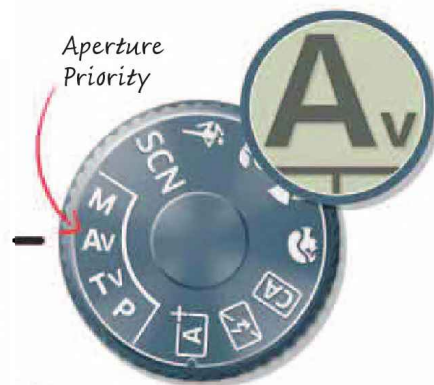
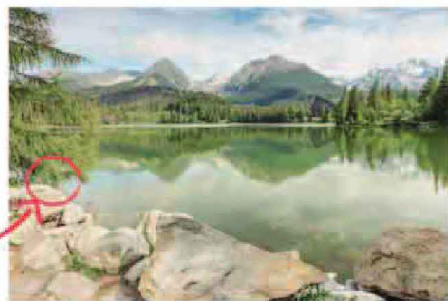
1 Attach a suitable lens

Choose a lens to suit the result you're after, since Picture Styles can be applied to any subject. For example, if you are taking a photo of a landscape, you should use a wide-angle lens to maintain front-to-back sharpness.

2 Select a picture mode

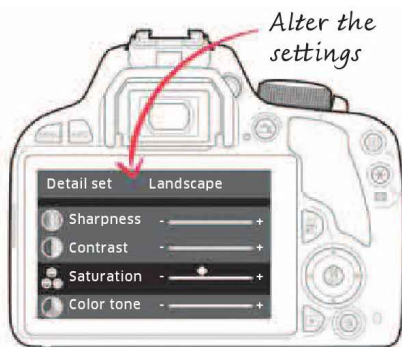
Attach your camera to a tripod and choose a picture mode. Select Aperture Priority and set a small aperture to obtain a deep depth of field.

Keep rocks and trees in shot to frame the image



5 Change the parameters

Adjust each of the parameters. Sharpness, saturation, and contrast can all be increased or decreased. Color tone can be changed from reddish to yellowish.



6 Save the Picture Style

If you've found a combination of settings that you think you might use regularly, you can save the Picture Style in the camera to use later. Some cameras even let you set how a certain Picture Style handles individual colors.



7 Activate Live View

By switching the camera to Live View, you can see how your Picture Style will affect the image. If the result is not what you want, you can make further adjustments before taking more shots.



Where to start: Find a scene, such as a landscape, that could do with an improvement in sharpness, contrast, saturation, or color tone.

You will learn: How to choose a Picture Style, how to adjust sharpness, contrast, saturation, and color tone in-camera, and how to customize and register a Picture Style for fast and easy access.



3 Check the metering mode and the ISO

Choose a metering mode to suit your subject and the light conditions. With this landscape, which has plenty of midtones and low contrast between the sky and foreground, it would be best to set the metering mode to default.

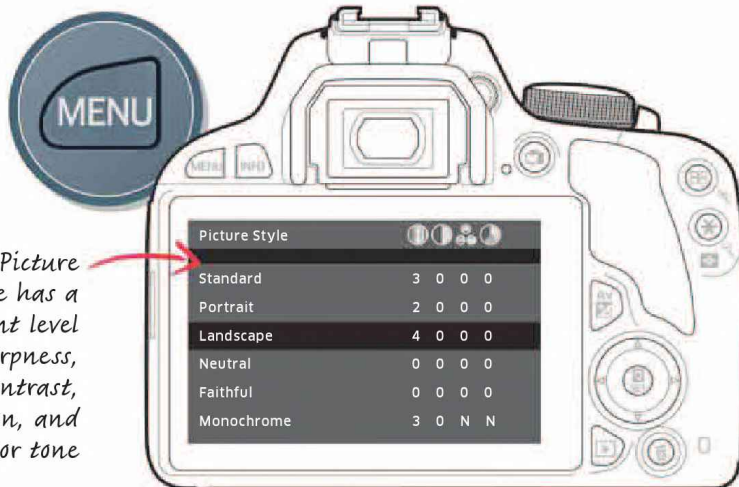


Set the ISO to the lowest sensitivity



4 Choose a Picture Style

With your composition and exposure perfected, select a Picture Style from the Shooting menu. The Landscape option, for instance, offers punchy greens and blues.



Each Picture Style has a different level of sharpness, contrast, saturation, and color tone



WHAT HAVE YOU LEARNED?

- Common Picture Styles include Standard, Portrait, Landscape, Neutral, Faithful, and Monochrome.
- Each of these has a different level of sharpness, contrast, saturation, and color tone preset.
- All of these parameters can be adjusted before you take a photo.

Save your best images and review them later (see pp.240–241)





▶ PRACTICE AND EXPERIMENT

Playing with color

These assignments involve experimenting with color in a number of ways, including creating contrast using complementary colors, placing a vivid color against a subdued backdrop, reducing saturation, and using analogous colors.



EASY

45 MINUTES

BASIC + tripod

INDOORS OR OUTDOORS

A SUBJECT DISPLAYING ANALOGOUS COLORS

By limiting your color palette to small groups of adjacent colors, you can create restful images.

- **Use** the color wheel to select some analogous colors, such as blue, blue-green, and green.
- **Look** for examples of analogous colors occurring naturally. For example, if you head outside on a fall day you are likely to find orange, yellow, and green in wooded areas.



Analogous colors

- **Use** image-editing software to desaturate the colors and reduce the contrast between them. Apply any adjustments sensitively, though, or your picture could end up looking faded.



MAKING A COMPLEMENT

EASY

45 MINUTES

BASIC + tripod

INDOORS OR OUTDOORS

A SUBJECT WITH COMPLEMENTARY COLORS

Graphic designers and painters are aware that when a color is used with its complement, both hues appear brighter. Use a color wheel to select a pair of complementary colors, such as red and green or yellow and blue, and find subjects with those colors.

- **Give** the colors a boost by playing with Picture Styles on your camera, or in post-production.
- **Keep** your composition simple, and exclude anything that doesn't reinforce the contrast between the two colors.



Red and green are complementary colors

Pro tip: You can take inspiration from painters as well as photographers. Vincent van Gogh was highly adept at using complementary colors. If you study his painting *The Starry Night*, you will see a yellow/orange moon and stars set against a blue/purple sky.



STANDING OUT

MEDIUM

1 HOUR

BASIC + tripod

INDOORS OR OUTDOORS

A SUBJECT WITH ONE KEY COLOR AMONG MORE SUBDUED TINTS

Setting one bold color against the tints, tones, or shades of another will allow it to take center stage.

- **Search** for a subject with pale or neutral tones and introduce one bold color, such as red.
- **Make** sure the color you introduce is relevant and in keeping with the scene. These bright flowers, for example, suggest new life against the ripened wheat stalks.
- **Select** an AF point or switch to manual focus to make sure the viewer's attention is drawn to the right place if the bold color is not centrally positioned.
- **Use** image-editing software to enhance the key color once you have secured your shot, or desaturate the supporting colors even more.

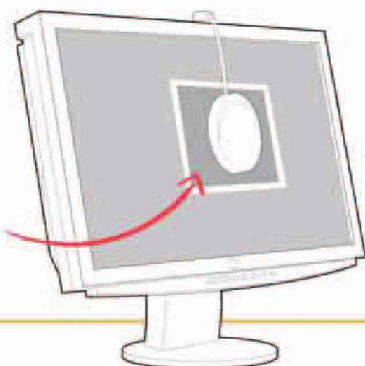
These bright red poppies stand out against the pale heads of wheat



GEAR: COLOR CALIBRATING

Sometimes the color, brightness, and contrast of the pictures you print bear little relation to the way they look on your computer screen. To solve this problem, you need to calibrate your monitor. A color calibration device (see p.347) tunes your display to a reference standard, ensuring consistency across multiple devices.

A calibration device attaches to the front of your monitor



WHAT HAVE YOU LEARNED?

- The use of complementary colors results in vibrant, eye-catching photographs.
- When a key color is a pure hue, the effect can be dramatic, but it still needs to be relevant to the subject.
- Analogous colors lead to calm compositions, but they need to be adjusted sensitively.



PLAYING WITH ONE COLOR

MEDIUM

1 HOUR

BASIC + tripod

INDOORS OR OUTDOORS

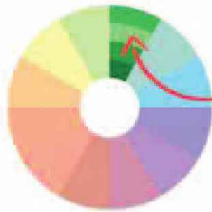
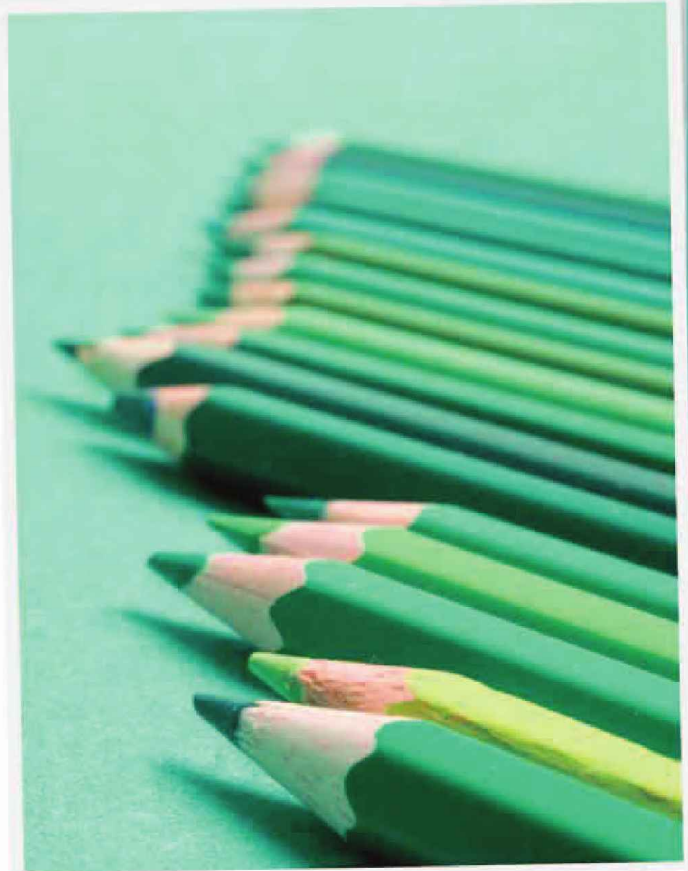
A SUBJECT IN VARIOUS TINTS, TONES, OR SHADES

Images that contain tints, tones, and shades of one color look balanced and elegant.

■ **Try** not to think of monochromatic color schemes as boring or one-dimensional. Instead, take a paint set, choose one color, and add white, black, or gray, and you will get some idea of the number of variations possible.

■ **Create** your own monochromatic subjects using everyday objects, such as pencils, vegetables, fabric, or flowers.

■ **Prioritize** elements in the frame using depth of field, focus, or compositional aids such as lead-in lines, because using a monochromatic color scheme can make it hard to establish a clear focal point.

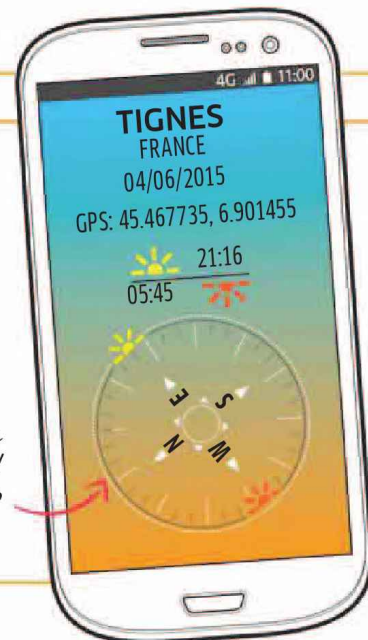


Tints, tones, and shades come from the same segment of the color wheel



GEAR: SUNRISE AND SUNSET CALCULATORS

If you're hoping to shoot a sunrise or sunset, it's worth carrying out a little research first. The light changes very quickly at these times of day, so it's important to have a couple of viewpoints in mind beforehand. To help you plan your picture, download a sunrise/sunset calculator to your smartphone—this will tell you exactly what time the sun is going to rise and set, and, crucially, at what angle.



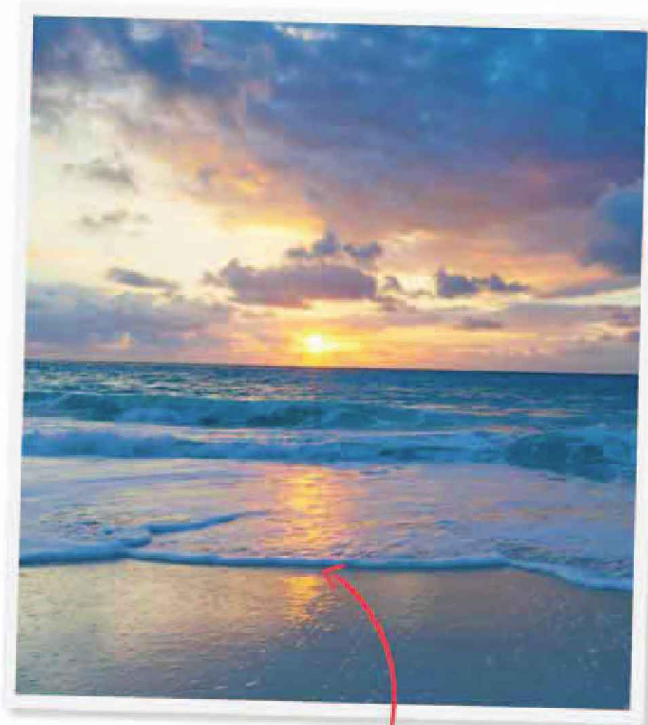
Compass from a sunrise and sunset app

WARMING UP

-  **HARD**
-  **OUTDOORS**
-  **2 HOURS**
-  **A LANDSCAPE AT DAWN OR DUSK**
-  **BASIC + tripod**

Red, orange, and yellow are considered “warm” colors. We often encounter these colors during sunrises and sunsets, when the sun is near the horizon and direct light is less intense.

- **Alter** the white balance settings to suit the conditions. If you leave white balance set to Auto, the yellow and orange tones will be perceived as color casts, and the camera will try to neutralize them.
- **Experiment** with Picture Styles if the colors aren’t rich enough, until you see a difference.
- **Set** your exposure for the sky or foreground depending on your desired effect: to create a silhouette, take a meter reading from the brightest part of the sky (not including the sun).



A splash of orange adds a touch of warmth to this picture

ENCOURAGE NOSTALGIA

-  **EASY**
-  **INDOORS OR OUTDOORS**
-  **2-3 HOURS**
-  **A SUBJECT WITH A RETRO STYLE**
-  **BASIC + tripod**

Camera manufacturers spend a lot of time ensuring that our images are bursting with vivid color, but sometimes this doesn’t suit the subject.

- **Create** a nostalgic look by reducing the saturation using in-camera controls.
- **Change** the Picture Style to Neutral and move the Saturation slider to the left to make the colors much less intense.
- **Desaturate** the image using image-editing software—this will enable you to adjust saturation, tone, and contrast sensitively.

Original image.



The same image after -50 saturation has been applied.

WHAT HAVE YOU LEARNED?

- You can create balanced and elegant images using tints, tones, and shades of one color.
- To prevent the camera from neutralizing “warm” colors, you need to make sure white balance is not set to Auto.
- Reducing color saturation can add a sense of nostalgia to a photograph.



▶ ASSESS YOUR RESULTS

Reviewing your shots

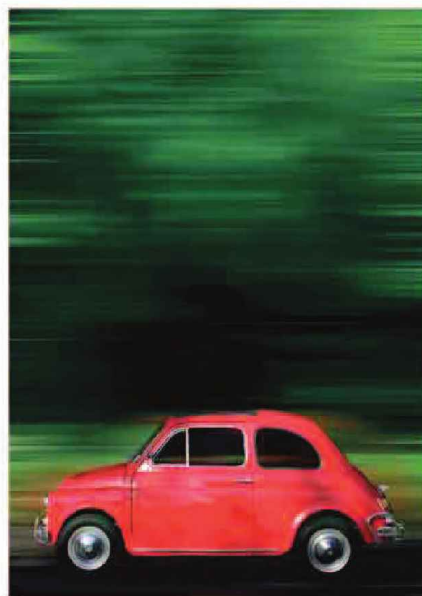
Having learned how color can be used to influence emotion, produce contrast, or create harmony, it's time to choose some of your best images and run through this checklist. Look at each shot and ask yourself how color affects your feelings toward the subject.

⦿ **Have you achieved contrast between two colors?**
Colors that sit opposite (or nearly opposite) one another on the color wheel produce striking contrast. In this image, the blue of the butterfly looks vibrant set against the orange of the leaves. What other complementary colors work well with each other?



⦿ **Can you combine vivid colors and neutrals?**
Neutral colors create the ideal backdrop for vibrant colors. Here, the gray sweater in the background makes the lollipop look even more bright and colorful.

⦿ **Does one color dominate?**
Colors of pure hue dominate the frame, and should be used with caution. The car here occupies a small part of the picture, but our eye is naturally drawn to it.



⦿ **Are you aware of any color psychology?**
Green is a color we associate with nature and tranquillity, so when it features heavily in the frame, such as here, the result can be wonderfully serene.

“ The chief function of **color** should be to serve **expression**. ”

HENRI MATISSE

14

WEEK



⌚ **Have you achieved color harmony?**

Colors that sit next to each other on the color wheel are extremely harmonious. The purple and blue in this scene work well together.



⌚ **Can you limit the color palette?**

This image uses different shades and tones of brown, giving it a simple, streamlined look.



⌚ **Do you find any colors distracting?**

In this picture, the red takes our eye first, before shifting to the blue. If you had used two recessive colors, it would be hard to know where to look first.



⌚ **Is the image warm or cool?**

We often think of colors as being either warm or cool. Morning light often appears much cooler than evening light when glorious sunsets, such as this one, can be captured.



▶ ENHANCE YOUR IMAGES

Adjusting color



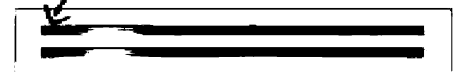
Hue is another word for color, saturation refers to the intensity of a hue, and lightness describes the amount of black or white mixed with a hue. Many pictures benefit from a quick tweak to one or all of these settings, but it's important not to be heavy-handed—push the saturation too far in a portrait and skin will look unnatural and blotchy.



1 Create a New Adjustment Layer

Click on the New Adjustment Layer button in the Layers panel to create a new layer. This will protect your original file while you alter the Hue and Saturation. The Hue/Saturation dialog box has sliders for Hue, Saturation, and Lightness, and you will see two colored bars at the bottom.

The top bar shows the color before adjustment, and the bottom bar shows how any change will alter the color



5 Adjust the Lightness

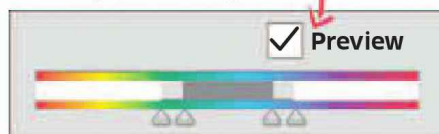
Click on the Lightness slider and enter a value, or drag it to the left to make colors darker or to the right to make the colors lighter.



6 Specify the range of colors to be adjusted

Create a New Adjustment Layer to adjust a specific color range and select your chosen color from the drop-down menu. Between the two color bars at the bottom are two sliders with four adjustment points. The center points define the range to be adjusted. The outer points define the extent to which similar colors are affected.

Click on Preview so you can see the effects of your changes



7 Confirm your adjustments

When you're happy with your Hue/Saturation adjustments, flatten the adjustment layer. If you feel you may want to come back and make further alterations, keep the adjustment layer; you will need to save your file as a Photoshop PSD or TIFF file.

Click OK to save any changes



Pro tip: You can save any Hue/Saturation settings you make, reload them later, and apply them to other images that feature the same subjects.

2 Choose all colors or a Preset range

Open the drop-down menu at the top of the Hue/Saturation dialog box. This allows you to adjust all the colors at once or target a particular range, such as reds.



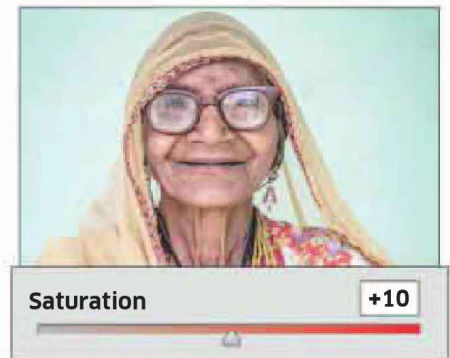
3 Change the Hue

Click on the Hue slider and enter a value, or drag it to the left or right. Major adjustments can change colors completely.



4 Alter the Saturation

Click on the Saturation slider and drag it to the left to decrease intensity or to the right to increase it. Excessive boosting can raise noise levels in the photo.



The colors in the image have been enhanced, while the lightness has been slightly decreased.

i COLOR SPLASH

Keeping one color intact while the others are converted to black and white can be fun. In post-production, the red umbrella was isolated from the others, which were then turned black.

