Knowledge of photographic lighting will not only help you understand why you need to be on-site with the photographer or videographer at 6:00 a.m. for a product shoot, but also will help you improve your personal photo images.

Back in your color unit, we discussed the fact that two color systems are use in creating advertising, RGB, the light system, and CMYK, the system used in full-color printing. The RGB system is what we view on a computer monitor and it is the one our eyes use for vision. While photographic film isn't quite as sensitive as the human eye, it does pick up most of the subtle nuances of both sunlight and man-made light.

Outdoor Lighting

Three factors affect outdoor light: 1) the time of day, 2) the season of year, and 3) the weather. Shooting at the right time or during the right type of weather can heighten the drama of an image and make it a real attention grabber in an ad. Consider the image in the vitamin ad at left. The only difference between it and the one below is the lighting. Either one could convey the message, but which one is the more arresting image?
**Time of day:** The chart above shows the movement of the sun throughout the day assuming that you are facing south. The light show begins before the sun crests the horizon in the morning and progresses steadily until noon, then repeats until darkness falls. Although lighting conditions change on a minute-by-minute basis, the small changes generally are imperceptible. But, try this—take a picture of a scene during the first hour after sunrise, then wait a few hours and take the same picture again. Below are some of the effects you’d expect to see.

**Dawn and twilight:** At both times, the sun is below the horizon, but there is still light. Because the sunlight cuts through earth’s atmosphere at such a low angle, wavelengths in the blue-violet range are scattered and absorbed by the air. As a result, warm tones of red, yellow and orange show up in the sky. Next time you are watching a sunset, notice how the sky colors become more brilliant for a while after the sun is out of sight. They may not begin to fade for as much as half an hour.

**Sunrise and sunset:** The colors are similar to those seen before the sun breaks the horizon, but now you have the brilliance of the solar orb to contend with. If the sun is in your picture, your exposure according to the brightness of the surrounding sky and clouds, not directly from the sun. Even
so, anything in the foreground is likely to be silhouetted unless flash is added to fill in.

**Early morning and late afternoon:** The light is becoming more natural, but retains a rosy glow that adds warmth to the subject of your photos. These times of day are favored by professional photographers for any outdoor commercial shoots, especially if the day is slightly overcast which softens shadows while retaining the warm colors. Blues aren’t absent from the light palette, though. The area of sky away from the sun is often intensely blue.

**Mid-morning and mid-afternoon:** Shadows are shortening somewhat and becoming more pronounced. At these times of day they add dimensions to objects without obscuring them. They also are intense enough to create interesting textural effects, especially in black and white photos. At right, the shadows of bars create a maze on the contours of rocks in a tiger’s cage.

**Noon:** When it is directly overhead, the sun shines nearly equal amounts of red, green and blue rays on the earth. This means that it is fairly close to being white light. The warmth of early morning is gone and subjects can look washed out. Scenery can look very flat since there are no shadows to provide a sense of dimension. Glare on shiny objects such as the car above can be a problem even on partly cloudy days. What filter can be used on your camera to correct this problem? Another problem of common to straight down, bright light is that it can cast very dark shadows on faces. This can be corrected by using a flash to add fill light.
This series of six images was made on the same day in the same location with shots at three hour intervals beginning at 6:00 a.m. and ending at 9:00 p.m.. Since the photographer was facing just a few degrees north of due west, the sun was at his back in the morning and set in front of him. The noon photo at the bottom of the left column shows the impact of weather rather than time of day on the image. Had the day remained sunny, this image would have appeared pale and washed-out. The buildings would have been brightly lit, but would have appeared even flatter than in the image above it.

In the 9:00 p.m. photo, taken 3 hours after the sun had set, notice how much light remains in the sky even though the street lights and those inside buildings are obvious.

**Season of the year:** Two things happen as the seasons change. First the color palette of your images is going to change because of changes in environmental factors. For example, the new leaves on trees in the spring are paler green than the mature leaves in summer. The colors of turning leaves in fall are very different than the ones on the same tree at other times.

The second change is more subtle. You won’t notice it with your naked eye. It concerns the amount of particulate matter in the air and the affects the diffusion of light. The extent of it's impact of photos depends to some extent on the location where you are shooting. In some regions, it can be quite pronounced.

**Spring:** In spring the volume of airborne particles begins to increase as pollen and spores are given off by plants. Wind blown dust particles, insects and industrial
pollutants are also part of the atmospheric soup. Overall, however, the volume is relatively low and outdoor images tend to have a cool, crisp freshness about to them.

**Summer:** As the earth warms, air molecules become agitated and thermal currents rise from the surface keeping the particles aloft like a person bouncing a balloon. By summer, there is enough of the stuff in the air to show up in photos as a slight grittiness or haze. In urban areas, it is the peak of the smog season.

**Fall:** The air stays full of particles when the weather is warm and fall-blooming plants add their pollen to the mixture. As the sunlight filters through air, it can take on the smoky look of the background in the picture at left.

**Winter:** Cold weather has a cleansing effect on the atmosphere. Movement of air molecules stops. Plants and bugs become dormant. Dust, pollen and spores settle. A clean white blanket of snow keep the wind from stirring things up. Photographic images have great clarity in winter, but glare is a problem in snow scenes. Overcast or partly cloudy days are best for winter shoots. A polarizing filter is helpful, too, as it brings out the contours of both clouds and snow.

**Weather:** The primary effects of weather on outdoor lighting are diffusion and bouncing of light rays. The overall mood of an image can be changed dramatically by weather conditions.

**Overcast:** Sunlight filtered through a light layer of cloud cover gives photos a water-
color look with rich, vibrant colors and little or no harsh shadows areas. The two picture at the bottom right of the previous page have similar composition, but the lower one was taken in bright sunlight. Note the very dark shadow areas compared to the image above it. Both, however, interesting pictures. They just have slightly different moods. Overcast weather condition is frequent favored by photographers.

**Fog and mist:** Low-hanging whisps of fog or mist give an image an ethereal, dream-like quality. You may want to try the same scene with and without a ultraviolet filter on your camera in such conditions. With the filter, foreground objects will be somewhat less obscured.

**Storms:** A wide variety of surrealistic lighting conditions occur in stormy weather. The lighting may differ according to the vantage point of the photographer and the position of the sun in relation to the storm. For instance, the brilliantly lit cornfield scene at left with its supersaturated colors is a lighting effect that occurs only a few times a year. It happens when the sun is 30 degrees or less above the horizon in late afternoon and is fully exposed below the storm clouds. The photographer has her back to the sun. The warm hues of the sunlight and the backdrop of dark clouds make colors absolutely glow in their intensity.

Below, the photographer is facing the sun as it illuminates the storm clouds. It is likely that some fill light was used on the driftwood in the foreground.