All the things you see around you are illuminated, or lit, by some light source. Without light, you would see nothing. No matter how bright your whitest clothes are, you cannot see them in absolute darkness. With a little light, the clothes begin to look gray. As the light increases, the white clothes look brighter.

3-1 This value chart shows a range of nine steps from white to black. Most people can distinguish about thirty to forty steps, or value gradations, between black and white.

3-2 Much of the beauty in black-and-white photography is a result of gradations in value.

Studio Experience

Shape Collage

Task: To create a paper collage with organic and geometric shapes that are overlapped and repeated.

Take a look.
- Fig.2–26, Charles Demuth, Three Acrobats.
- Fig.2–38, Henri Matisse, Les Cadena.

Think about it. Think about how you would answer the following questions relating to both the Matisse and the Demuth depiction of acrobats.
- Identify the geometric and organic shapes. Which shapes are angular? Which shapes are repeated?
- Which shapes are dynamic, creating a sense of movement? How has the artist positioned shapes on the page to create a sense of action? Which shapes are static?
- Identify positive and negative shapes. Are the black squares in the Matisse collage positive or negative shapes? Why do you think this?
- Which shapes overlap, and which touch the edge of the picture plane? How does this overlapping and extending of shapes to the edge of the picture affect the whole composition?
- How has the artist used shape to unify the composition?

Do it.
1. Cut both organic and geometric shapes from various colors of 9" x 12" paper. For example, to develop human shapes, use either a marker or a pencil to make a series of gesture drawings of action poses. Cut out several of the poses, saving the paper from which they were cut, perhaps for use as negative shapes and a means of repeating a shape. Turn the shapes over so that the drawing does not show.
2. Arrange the cut shapes on a contrasting color of 12" x 18" paper. Cut out additional organic and geometric shapes from paper of another color, and add these to your collage. You might want to cut out several versions of the same shape in various sizes or colors. Use an X-acto knife to cut out details and small interior shapes.
3. Before gluing down the shapes, experiment with overlapping and repeating shapes, and including negative shapes.
4. Use a glue stick or white glue to attach your shapes to the large piece of colored paper.
5. Near the lower edge of your composition in small lettering, write the title of your collage and sign your name with a marker.

Helpful Hints
- Sometimes, large background shapes, such as the white rectangle in Matisse's Les Cadena, can unify and stabilize a composition.
- By repeating shapes, you can form patterns and rhythms in your composition.
- If you use an X-acto knife, cut on a cutting board or cardboard to protect your work surface. Keep fingers clear of the blade.

Check it.
- Describe the shapes in your collage. Which are organic, and which are geometric? Which shapes have you repeated, and which have you overlapped?
- Overall, is your design effective? Does it work together as one whole composition? How do the negative and positive shapes interact?
- Consider the craftsmanship in your artwork. Are the shapes neatly and securely glued? Does the quality of the cutting, such as uneven edges, detract from or add to the design?
- What is the strongest or best part of your collage?
- What did you learn in this project?
- What might you do differently the next time you create a similar collage?

"This is a collage of two people dancing under moonlight. I used a dark background to make the other colors stand out. The 'explosive,' bright shapes were used to indicate exciting, happy movement. The yellow spiral floor was also used for this reason. The moon was used to express romance, and the reddish/purple color was chosen to show passion."

MacKenzie Lewis, (age 17), Midnight Mambo, 1998. 12" x 18" (30 x 46 cm). Notre Dame Academy, Worcester, Massachusetts.
This range of light and dark is called **value**, the lightness or darkness of grays and colors. In a black-and-white photograph, you can easily see the difference between the areas of light gray and white and the areas of medium gray and black. White is the lightest value, and black is the darkest—and there are an unlimited number of values between them. In this chapter, you will explore the use of value in a design, the differences between light and dark values, and value contrast.

![Still life](image)

**Try it**

Use pencil, charcoal, or crayon to make a value chart with only three values: light, medium, and dark. Then make a second value chart with five values, from white to black.

![Self-portrait](image)

3–3 Where is your attention drawn in this image? How does the artist use value to create the center of interest? Jean-Baptiste-Siméon Chardin (1699–1779). *The Silver Goblet (Le Goblet d’argent)*, c. 1728. Oil on canvas, 16 ¾” x 19” (42.9 x 48.3 cm). Purchase 55:1934; The Saint Louis Art Museum (Early European Art).

3–4 This self-portrait is a study in values. Think about where the source of light must have been when the artist depicted her own face. Sun Han (age 17). *Self-portrait*, 1996. Charcoal on paper, 18” x 24” (45.7 x 61 cm). Los Angeles County High School for the Arts, Los Angeles, California.
Using Value in a Design

The light in a painting or drawing may come from any single direction or from more than one direction. Areas facing a light source are lightest in value. Areas facing away from a light source are darker. Light also creates shadows. A single bright light creates shadows that are sharp and dark-valued. Multiple light sources or indirect lighting produces lighter shadows with softer edges. Shadows and varying shades of gray can create the illusion of three-dimensional space or volume.

Value may also be used to show depth. The farther away that objects are from the foreground in a landscape or cityscape, usually the lighter they are in value. Look at the image of the Grand Canyon (fig. 3–6). In this photograph, the darkest areas are the canyon walls closest to the viewer. In the distance, the canyon becomes noticeably lighter. If an artist uses all light or all dark values, the space within his or her design may seem shallow, with little or no depth.

Artists often depict the actual effects of light, but sometimes they choose to alter or invent them. They may wish to emphasize darkness to convey a sense of mystery, or they might increase the brightness to suggest happiness or excitement. The values may not be realistic, but they can strengthen the mood to better suit the artist’s intended effect.

3–5 In this image, the darkest area is farthest from the viewer. What is the effect of this?

3–6 When looking out a window, down a street, or across a field, notice how the objects farthest away from you are usually the lightest in value.
Grand Canyon. Photo by H. Ronan.

3–7 This study takes advantage of some ways value can be used to emphasize the mood of a work.
Graphite. Plano Senior High School, Plano, Texas.
Harold Lloyd in Safety Last

The inspiration for Safety Last came to silent-film actor Harold Lloyd when he watched Bill Strothers (known as the "human fly") climb up the outside of a Los Angeles office building. Lloyd became so terrified while watching Strothers that he hid his eyes from what he was sure would end in disaster. Lloyd realized the suspenseful effect that such a scene would have on moviegoers, and incorporated similar scenes into several films over a ten-year span.

Safety Last is the story of a department-store clerk who tries to convince his visiting girlfriend that he is the store manager. In the process, the famous bespectacled character meets with some amazing obstacles. This still photo is from perhaps the best-known scene, a fast-paced, comic climb of a twelve-story building, during which Lloyd defends himself against attacking pigeons, spilled water, tilting windows, and tangled nets. A stunt double served for much of the action.

For this shot, one of the most famous from early Hollywood, the camera placement exaggerates the distance between Lloyd and the street below. The lighting and composition of this scene, as well as the actor's expression, produce an emotional impact.

However, a sense of danger in Safety Last was present not only by design and acting. Lloyd reportedly dislocated his shoulder as he dangled from the clock. Also, Lloyd had one of Hollywood's best-kept secrets: because of injuries from the explosion of a faulty prop bomb, the actor had an artificial right hand. To make up for the loss, the actor worked hard to improve his athletic abilities. Despite these challenges, however, both the movie and Lloyd's life had happy endings.

3-8 How has the cinematographer used value to increase the tension in this scene?

Discuss it

Look at various black-and-white photographs in this book. How did the photographers make objects or people contrast with their surroundings? Which works have few value changes? Which use a wide range of values? What different moods do these black-and-white images create?
Light Values

To depict happiness, warmth, or sunshine, an artist emphasizes lighter values. Think of the sun’s glare at the beach or on newly fallen snow. The light is so bright that we often put on sunglasses, which darken the intensity of the light so that we can see more easily and clearly. In a work that captures the effects of such bright lighting, the shadows are often dark and clearly defined.

3–9 Light values stand out in this painting. They are high-keyed because white has been mixed with the colors.


Try it

Cut 1” squares of light-gray values from magazines. Arrange them into a chart that shows value steps from white to medium gray. This chart can show you a variety of grays to use in future designs.

3–10 Describe the kind of day depicted in this watercolor.

An artwork with many light-valued colors is high-keyed. **High-keyed** colors have been mixed with white and are called pastel colors. Notice how Sargent uses light values in the watercolor of alligators (fig.3–10). The whiteness of the colors recreates the glare and heat of strong tropical sunlight.

Look at the still-life painting by Giorgio Morandi (fig.3–11), in which the artist worked with values that are close to one another. There are neither bright highlights nor dark shadows. The soft colors and subtle changes in value help emphasize a feeling of quiet and peacefulness. (See Chapter 4 for more about color and color relationships.)

3–11 Some artists choose to use only a few value changes in their work.
Giorgio Morandi
Oil on canvas, 8" x 15 ¼"
(20.3 x 39.7 cm). The
Phillips Collection,
Washington, D.C. ©Estate
of Giorgio Morandi/
Licensed by VAGA, New
York, NY.

3–12 Berthe Morisot was an Impressionist. Impressionists were fascinated with the effect of light on color.
Berthe Morisot (1841–95). *Lady at Her Toilet*, c. 1875. Oil on canvas, 23 ¼" x 31 ¾" (60.3 x 80.4 cm). Stedelijk Fund, 1924.127. Photograph ©1998 The Art Institute of Chicago, All Rights Reserved.

**Try it**

Draw a single white object, such as a piece of wrinkled paper or a golf ball. Use a pencil to shade the object with many light-valued grays.
Dark Values

To suggest dark and gloomy days, nighttime, or dim lighting, an artist uses darker values. The lack of brightness tells the viewer that the source of light—whether it is the sun or artificial lighting—is weak or far away. A painting or drawing that emphasizes dark values can convey feelings of cold or sadness.

A work that uses mainly dark-valued colors is low-keyed. **Low-keyed** colors have been mixed with black or gray. The use of charcoal to draw and shade an object on light-gray paper produces a low-keyed result. All the values will be dark; the lightest value will be the gray of the paper itself.

Look at the painting *Aurora Borealis* (fig. 3–13), in which the artist chose to use little value contrast. The only brightness comes from the green and red light in the sky, known as the northern lights. These multicolored flashings are visible near the earth’s poles. The low-keyed colors perfectly capture the atmosphere of a mysterious nighttime scene.

3–13 Compare this painting to fig. 3–10. These two artworks clearly show the great difference in effect between light and dark values.

3–14 What aspects of the underwater world did the artist bring out in this low-keyed painting?

**Try it**

Cut 1” squares of dark-gray values from magazines. Arrange them into a chart that shows value steps from medium-gray to black. This chart can show you a variety of grays to use in future designs.
About the Artist

Louise Nevelson

Born in Russia in 1899, Louise Berliawsky was attracted early in life to the visual excitement of her surroundings. When she was five, she and her family moved to Rockland, Maine. Louise knew from an early age that she was going to be an artist, and she tried to improve her skills in drawing and painting by devoting considerable energy to practice and study.

She married Charles Nevelson in 1920 and moved to New York City, where she pursued her interest in the fine arts. She delighted in learning about music, dance, and theater (she even had a brief career as an actress in Europe in 1931).

In 1935, Nevelson was hired as an artist and teacher under the Works Progress Administration (W.P.A.), a federal program that, among other activities, gave work to artists during the Depression. Nevelson began sculpting in terra cotta, and at different times worked with various materials such as plaster, Plexiglas, and steel—although she is best known for her monochromatic wood sculpture, such as Sky Cathedral (fig. 3–15).

She enjoyed working with wood for what she called its quality of "livingness." To emphasize and give power to the forms, Nevelson painted her wood sculptures only black, white, or gold. Regarding her use of black, Nevelson said, "There is no color that will give you this feeling of totality. Of peace. Of greatness. Of quietness. Of excitement."

Nevelson's artwork gained important notice in the late 1950s. In 1959, a selection of her work was included in a show at the Museum of Modern Art in New York. She continued to be a fiercely independent and productive artist until her death in 1988.

3–15 Louise Nevelson often painted her sculptures completely black or completely white.

Try it

Draw a single dark object, such as an acorn squash, a black checker, a wrinkled piece of black paper, a dark backpack, or a piece of dark fabric. Use a pencil to shade the object with many dark-valued grays.
Value Contrast

Artists emphasize not only dark values or light values in their work, but also include values from all parts of the scale. Light values placed next to medium or dark values creates value contrast. This contrast may help viewers distinguish between different parts of a design. It also may make one area of a design stand out.

3–16 The stark contrast in value in this design gives the piece a sense of immediacy and simplicity. Michelle Spinnato (age 15). *Value Study*, 1998. Construction paper, newsprint, chalk, and magazine paper, 12" x 18" (30.5 x 45.7 cm). Atlanta International School, Atlanta, Georgia.


Try it

Cut out 1" squares of dark- and light-valued grays from a magazine. Arrange them to create a collage or other design that shows strong value contrast.
The greatest possible value contrast is between black and white. A woodcut or a linoleum-block print made with black ink on white paper uses such contrast. In fig.3–16, the artist’s use of black helps the bird stand out from the nearby flower.

Some artists prefer to use strong value contrast only a little, perhaps saving it for a design’s center of interest, a special area to which the artist wishes to draw the viewer’s attention. The center of interest, usually where the artist wishes the viewer to look first, may also contain a design’s most important object or figure, or other important information.

3–18 Kent Twitchell drew this self-portrait with graphite. He used dark values for the background and shadows on his face; he used the lightest value for highlights and the areas closest to the viewer. The medium grays bridge the light and dark values, and provide softer details within the face.


3–18a Kent Twitchell. Study for Eyes Mural, detail of fig.3–18.

Note it

Look at several images in this book. Try to find the place in each image where the lightest and the darkest values come together. In which images is the center of interest created by this area of greatest value contrast? In which is the center of interest created differently? Explain.
In a generally light-valued design, a dark shape or line will stand out. Look at The White Girl (fig. 3–19). Notice how your eyes are quickly drawn to the top of the work, where the subject’s face is composed of dark features and framed by dark hair. This is the painting’s center of interest.

In a generally dark-valued design, a light shape or area will become the focus. Look at the seventeenth-century painting Newborn Child (fig. 3–21). The entire scene is dark, with a burning candle as the only source of light. The candle itself is hidden, but it beautifully highlights the face and right arm of the young woman. The artist, Georges de La Tour, is famous for such bold, candle-lit scenes.

3–19 Though most know Whistler’s painting of his mother best, The White Girl is what caused Whistler to become the first American painter after the eighteenth century to gain fame in Europe. Why do you think the artist called this painting Symphony in White?


3–20 How is value contrast used in this student work?

High school student (age 17). Los Angeles County High School for the Arts, Los Angeles.
Finding the contrasting values in a design is sometimes difficult. First, shut out tiny details by squinting your eyes. Then look only at the larger shapes of similar value. When you do this, the elements of dark and light will become more noticeable. You can also use this technique to balance the value contrasts in your own work more effectively.

Find the artist

focussed the light of the candle on the child?

Georges de La Tour (1593–1652). *Newborn Child* (Le Nouveau-Né), mid-1640s. Oil on canvas, 31 ¾ x 35 ½" (79 x 91 cm). Musée des Beaux-Arts, Rennes, France. ©Photo RMN, Ojeda/Hubert.

**Try it**

From a piece of medium-gray paper, cut four 1" squares. Then from white, black, and two different gray-valued papers, cut four 3" squares—one square of each value. Place the small gray shapes on the four larger shapes. What appears to happen to the value of the smaller shapes? Why do you think this occurs?

3–23 To achieve success, graphic designers must consider the art elements while planning their work. How would you describe the effect of the value contrast in this design? James Porto (b. 1960). *Wired* magazine cover, November 1997. Digital image courtesy of the artist.
Career Portfolio

Interview with a Cartographer

As a cartographer (mapmaker), Paula Lee Robbins uses value to give relief shadings of mountain ranges a three-dimensional look. The reliefs are done by hand, then scanned into a computer, where the maps are built in layers. Paula was born 1964 in Manitowoc, Wisconsin, and has been working with an international map-making company in Madison, Wisconsin, since 1987.

How did you get interested in map making?

Paula When I was about nine or ten, I started drawing on my own. I liked to draw things so they looked three-dimensional. The first thing I drew was my Dad's weight-lifting set down in our basement. I couldn't believe it turned out so nice. So I started drawing a lot after that. I would look at a black-and-white photograph and do a drawing that looked exactly like the photograph. I would use a pencil and my finger to blend the graphite to create the different values.

What was your favorite subject matter?

Paula I liked drawing landscapes and birds, sunsets, things like that. I would take my camera and go to the river and take photographs, then I would draw from them.

I also liked math and the sciences quite a bit. When I went to the University of Wisconsin Extension, in Manitowoc, I took some geology and geography courses. I also took a life drawing course [human subjects] and really enjoyed that. I was fascinated with geology and geography. We had a short session in cartography in our geography class—maybe a week we spent on cartography and maps. I was very intrigued and I thought, well, maybe I could combine my art with geography. I had seen some relief shading and thought, hey, that looks interesting. I bet I could do that.

So, I majored in cartography. I took a lot of engineering classes, I took math classes and calculus. Advanced algebra turned out to be very useful, because you do calculations in cartography. I also took computer programming. Things just sort of fell into place.

What are your goals for the future?

Paula I would like to perfect my relief shading. I also want to learn more about Photoshop and Painter [software programs] and see how I can incorporate the computer with shaded relief. I also would like to fly, to travel more.

That's one thing that's interesting about maps; it takes you places in your mind that you may never go to—you probably won't ever go to. Because you can't go everywhere, physically. But mentally, it does take you places.

That's what was intriguing to me also.

You see that there's so many places and different people in the world. It's like expanding your mind by looking at a map. Maps are not just about the land; they're also about the people, the cultures.

Designing a good map requires more than just a knowledge of geography. Paula Robbins uses her artistic skill to select colors that work together, devise a key, and produce relief shading for mountainous areas. She also chooses the style, size, and placement of type that organizes the names of rivers, cities, counties, and other information. This map of a portion of the Alaskan coastline was published in National Geographic.
3–24  From a distance, the tiny pieces of color blend together to create a beautifully modeled form.


3–25 The eye of the photographer captured the profiles of these buildings in the smoke. How do the light values of the smoke give the viewer a sense of space?


**Review Questions**

1. To what does the art element *value* refer?
2. Explain how light affects the value of colors or gray tones.
3. In landscapes, where are the darker values usually found?
4. What type of values do high-keyed and low-keyed colors have? Give the title of an image in this chapter that has mainly high-keyed values and that of another that has mainly low-keyed values.
5. How can artists use values to create a center of interest?
6. Why did Louise Nevelson paint most of her sculptures a monochromatic black, white, or gold?