



# CHAPTER 25

# Floral Design

## *Chapter Outcomes*

After studying this chapter, you will be able to:

- Describe the principles and elements of floral design.
- Identify types of floral designs.
- Describe containers, tools, and materials used in floral design.
- Explain how flower arrangements are constructed.
- List careers related to floral design.

## *Words to Know*

asymmetrical design  
boutonniere  
color harmony  
color scheme  
corsage  
filler flower  
focal point  
form  
form flower

harmony  
hedgerow design  
line  
line design  
line flower  
line-mass design  
mass design  
mass flower  
mechanics

proportion  
rhythm  
scale  
stem stripper  
symmetrical design  
T-design  
unity

## *Before You Read*

Before reading this chapter, review the objectives. Based on this information, write down two or three items that you think are important to note while you are reading.



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While studying this chapter, look for the activity icon  to:

- **Practice** vocabulary terms with e-flash cards and matching activities.
- **Expand** learning with the Corner Questions and interactive activities.
- **Reinforce** what you learn by completing the end-of-chapter questions.

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**H**uman beings have been using flowers and plant materials for adornment for thousands of years. Today, floral design and floriculture is a multimillion dollar industry. The floriculture industry includes the cultivation of cut flowers and foliage, bedding plants, houseplants, and potted or container plants. The floriculture industry is comprised of growers, wholesalers, retailers, distributors, importers, and designers, as well as the support businesses that supply equipment and accessories. Although the growing techniques, plant nutrition, and growing conditions discussed in this text apply to plants grown for the floriculture industry, there are many processing and storage techniques specific to the cultivation of these plants—far more than can be covered in one chapter. Therefore, this chapter instead focuses on the basics of floral design.

### Did You Know?

The principles of design are also referred to as the “laws of beauty” and apply to all forms of art, including landscape architecture and design.

## Principles and Elements of Design

Floral designs are often used to decorate spaces for formal occasions, such as parties or weddings. Many people send flower arrangements to friends or family to express congratulations or caring, and to make holidays and special occasions, such as birthdays and anniversaries, more special. Floral designers use principles and elements of design to create a design that is appropriate for the occasion, space, and audience it is intended to please.



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**Figure 25-1.** The thin stem of this tall table arrangement allows guests to see and speak easily to those across the table. However, the designer must ensure the arrangement is well-balanced to prevent it from easily falling or being knocked over.

### Principles of Design

The principles of design establish guidelines for creating floral arrangements that are pleasing to the eye. While many people have a natural talent for design, principles of design can also be learned with time and practice. Principles of floral design include balance, symmetry, proportion, scale, focal point, rhythm, harmony, and unity.

#### Balance

Balance creates a sense of stability. Arrangements must be physically and visually balanced. A physically balanced design is stabilized with mechanics. *Mechanics* are the devices and techniques used to keep floral placements secure in a design. Mechanics are also used to provide support, anchorage, and footings to the arrangement as a whole. Poor mechanics contribute to poor balance. To ensure a design does not fall over, careful attention must be paid to the engineering and security of the footings. A designer must also consider factors that may contribute to physical failures, including weather and human contact, and construct measures to prevent the fall or collapse of the floral design, **Figure 25-1**.

In floral designs with visual balance, the elements are arranged so that no one part of the design overpowers other parts. Visual balance must address the color, shapes, sizes, and patterns used in the design.

## Symmetry

Floral designs are divided into visually balanced parts related to a central vertical axis (CVA). Balance can be expressed as symmetrical or asymmetrical.

In *symmetrical designs*, a nearly identical or mirrored arrangement of plant materials is used on both sides of the CVA. Symmetrical designs invoke a feeling of formality. Repetitions of flowers, foliage, and accents create the symmetry. Triangular, round, or fan-shaped arrangements work well with symmetrical designs, **Figure 25-2A**. A symmetrical arrangement can often be found on opposing sides of an entrance or an altar.

In *asymmetrical designs*, the weight of the design is distributed equally on the both sides of the CVA, but the sides are not mirror images. The CVA does not have to divide the arrangement into equal sides. An asymmetrical design lacks formality and often parallels what occurs in nature. Asymmetrical designs create balance by repeating color, sizes, shapes, and patterns. If one side of the axis uses a particular flower of one color, the other side may have another flower of another color. Common asymmetrical floral designs include crescents, Hogarth curves (S-shaped lines), and right triangles, **Figure 25-2B**. Bridal bouquets, tabletop arrangements, and many other designs may use asymmetrical balance.

## Proportion

The relative sizes and amounts of elements in a design denote the *proportion*. Various elements, such as the flowers, foliage, accents, and container, combine and must be proportionate to one another for a visually pleasing result.

Proportion is important within a design. The relative proportion of a design to the space in which it is placed is also important, **Figure 25-3**. For example, a Valentine's Day teddy bear that dwarfs the overall arrangement does not have pleasing proportion. An arrangement with small button mums coupled with very large foliage leaves also lacks pleasing proportion.



A

Andrew Mayovskyy B



Chris Bankhead/Shutterstock.com

**Figure 25-2.** A—This flower arrangement is a symmetrical, equilateral triangle design. B—This right triangle design is not symmetrical, but the weight on either side of the CVA is proportional.

### Did You Know?

Butterfly wings are examples of natural symmetrical design.



Konstantin Goldenberg/Shutterstock.com

**Figure 25-3.** A floral design should be proportional or to scale with its environment. Following the rule of thirds, this arrangement is dominant, taking over two-thirds of the space within view. **How would this same arrangement fit on a small café table?**

## STEM Connection

### Proportion or Scale?

Proportion and scale are often confused. Proportion is the relativity of the materials to one another. For example a flower arrangement that has 15 flowers that are proportional to a container can be increased in size to meet the requirements of a larger space. If the place where the arrangement will be placed needs to be three times as large, then 45 flowers and a different container can be used. A plant may be proportional to the container (2–3 times as large as the container) but much too small, or not to scale, for the space it is to occupy. For example, a single daisy in a vase would suit a table meant for two people, but would look lost on a banquet table set for eight.



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### Did You Know?

In competitive flower shows, a miniature flower arrangement cannot exceed 5" (12.7 cm) in height. Therefore, to follow the element of proportion, a container should be no larger than 2" (5.08 cm) tall.

Floral designers follow simple guidelines to achieve proportion in arrangements:

- Plant materials (flowers and foliage) should be 1 1/2 to 2 times the size (height, length, or width) of the container used.
- Applying the rule of thirds to get a rough estimate for arrangement sizes. The space is first divided into thirds. The arrangement can be dominant and fill two-thirds of the space, or subordinate and fill one-third of the space. A dominate arrangement is the point of emphasis in a space whereas a subordinate arrangement rests in the background.

### Scale

A *boutonniere* is a small floral arrangement that is worn on the lapel area of clothing. A boutonniere may be small compared to the size of a grown man, but that same boutonniere pinned to the lapel of a child will appear much larger, **Figure 25-4**. *Scale* is the size relationship between two objects, such as between a floral design and its surroundings, or among the various elements within a design. A flower arrangement meant for a ballroom or banquet hall must be large so that it will not seem too small for the space. That same arrangement would be much too large for a dining room table in a home.

### Focal Point

What catches your eye in a design? Is it a certain color? Is it a specific flower? The *focal point* of a floral design is the area of dominance or emphasis to which the eyes naturally travel.



oliveromg/Shutterstock.com

**Figure 25-4.** The ring bearer's boutonniere is the same size as the one on the groom's lapel. The flower appears larger on the boy due to scale.



The focal point will capture the viewer's attention and highlight a particular part of the design. Various flowers, foliage, or materials can be used to create a focal point, **Figure 25-5**. A bright or contrasting color, a unique form, or even a piece of art or a figurine can be a focal point. Materials that are unique or add interesting details to a design are called accents. Accents can stress or emphasize the focal point of the design.

## Rhythm

*Rhythm* is a pattern of repeating or alternating elements in a design that suggests a sense of movement. Flowers and materials used in a design can create a pattern or guide the eye by the way they are spaced. Colors, shapes, textures, and lines can be placed in intervals. Flowers that are tightly spaced in a design create a slow rhythm. As the flowers are spaced further apart, the rate of movement or rhythm increases. The rhythm of the design should lead the eye to a focal point.

## Unity

*Unity* is the relationship among elements in a work of art that makes them appear to belong together or function as a whole. When a floral design evokes a feeling of unity, all of its elements work together. To create unity, designers use principles of design and also work to include:

- Repetition—reusing flowers, foliage, accessories, colors, textures, and other elements. Items can be reused similarly or exactly, **Figure 25-6A**.
- Proximity—the way elements of the design are placed in relation to one another's space. The designer can group or sort similar pieces together in a way that is visually pleasing.
- Transition—the gradual changes from one point unto another. Gradients of color or size can help transition components of a design. An example is having a container, such as a woven basket, flow into the flower arrangement, **Figure 25-6B**.



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**Figure 25-5.** The gerbera daisy is the focal point of this arrangement. The viewer's eye is automatically drawn to the large orange flower.

“The essence of the beautiful is unity in variety.”  
—Somerset Maugham



A

infinity21/Shutterstock.com B



natrot/Shutterstock.com

**Figure 25-6.** A—Repetition contributes to a sense of unity and harmony. Here the vases and materials are repeated. B—These flowers transition from one type to another.



A

pullia/Shutterstock.com



B

Alex Andrei/Shutterstock.com

**Figure 25-7.** A—An overall feeling of simplicity and harmony is achieved in this design. B—Although the designs are different, the similarity of plant materials, shapes, and sizes helps to contribute to a sense of harmony.

## Harmony

**Harmony** is a pleasing interaction or blending among the elements of a design. Viewers recognize harmony by the uniqueness of different elements that contribute to the overall effect. The color, texture, shapes, and materials blend together and create a whole design. The principles that contribute to the creation of harmony in a design include simplicity, theme, and similarity.

- **Simplicity.** A design with very few elements is simple. To incorporate simplicity in an arrangement, designers may omit elaborate accessories and focus on the floral materials, **Figure 25-7A**.
- **Theme.** The subject or focus of a piece is the theme. For a fairy tale wedding theme, the designer might use a glass slipper as the container or adorn the space with Cinderella figurines. Using a theme in the floral design contributes to the theme of the overall event or occasion.
- **Similarity.** Items that are similar resemble one another but may not be identical. Using similar items in a design contributes to the harmony of the piece while also providing variety, **Figure 25-7B**. For example, for a brunch a designer might use varying tea cups filled with the same combination of white flowers. The teacups provide some differences but the decorations are united by the similarity of the type of container and the flowers used.

## Elements of Design

The elements of design are all of the things that go into creating an arrangement. In floral design, the elements are used to create an artistic expression using floral materials. The elements of floral design include color, line, form, and texture.

### Color

Color is the element that impacts most viewers immediately. Color likes or dislikes help determine whether or not someone likes an item and heavily impacts purchases. A pure *hue* (a color on the color spectrum) has not been lightened, darkened, or grayed. Adding black, gray, or white to the pure hue will change the purity or value (making it darker or lighter). A *tint* is a hue that has been lightened, and a *shade* is one that has been darkened. For example, red is a pure hue. A tint of red is pink, and a shade of red is maroon.

### Corner Question



How many Crayola® crayon colors are there?

When gray is added to a hue, it weakens the color and results in a *tone*. A viewer recognizes the intensity (also called chroma) in the brightness or dullness of a hue, which is created by mixing the hue with other colors.

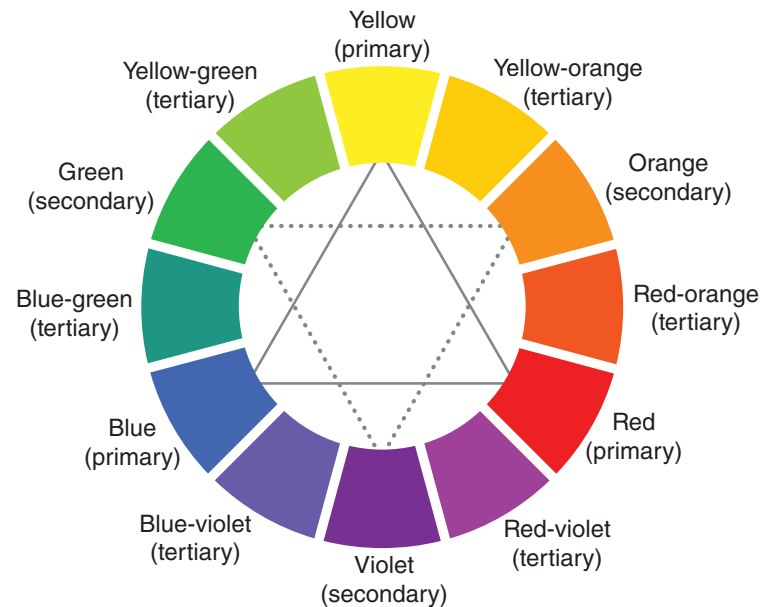
**Color harmonies** (also called **color schemes**) create a guideline for combining colors in a design. A color wheel may be used to choose or explain color harmonies, **Figure 25-8**. Designers may use several types of color schemes:

- In a monochromatic color scheme, one color that varies in value and intensity is used throughout the design. For example, bright yellow roses and both light and dark yellow carnations could be used as the base of a monochromatic arrangement. Monochromatic arrangements generate feelings of peace and unity.
- In an analogous color scheme, three or more neighboring colors on the color wheel are used throughout the design. Analogous arrangements feed resemblance, or similarities of color, without being monotonous. Fall weddings and other fall events can easily use analogous color schemes, **Figure 25-9**.
- In a complementary color scheme, two hues opposite each other on the color wheel are used to create dramatic contrast. A commonly used example is red and green. Nature often replicates this color scheme. For example, red holly berries contrast with the green luster of foliage.
- A polychromatic color scheme uses five or more hues. Flowers of many colors and shades are included in this type of color scheme.

## Line

**Line** represents a path that constructs the foundation, shape, and form of a floral arrangement. Lines can be straight or curved, horizontal or vertical, or any combination thereof. The actual lines of flower stems can aid in constructing the overall design. Different types of lines contribute to different moods. A horizontal line creates a restful feeling and is often used for sympathy or funeral pieces. Vertical lines evoke a feeling of energy. They force the viewer's eye upward or downward toward a focal point.

“Color is my day-long obsession, joy, and torment.”  
—Claude Monet



aekikuis/Shutterstock.com

**Figure 25-8.** The color wheel is a useful tool for establishing a color scheme for designers and customers.



Maria Sbytova/Shutterstock.com

**Figure 25-9.** An analogous color scheme uses three or four colors that are next to one another on the color wheel.



## Form

The overall shape of an arrangement and the shapes of the flowers or foliage are referred to as the *form*. The shape of the arrangement will be discussed later in this chapter with geometric designs. Flower and foliage forms are classified into four main categories:

- **Line flower**—a long stem or spike. Examples are bells of Ireland, snapdragon, gladiolus, horse's tail grass, and delphinium, **Figure 25-10A**. This is the first plant form put into the design to establish the height and width or general framework of the design.
- **Mass flower**—a closed-form, single flower that has a dense, round shape. Carnations, roses, peonies, mums, and galax or pittosporum for foliage are mass flowers, **Figure 25-10B**. Mass flowers fill in spaces around the line materials and make up the majority of the arrangement.
- **Form flower**—a flower that is unique in some manner (color, shape, texture, or size). These are usually exotic and expensive flowers. Examples include orchid, bird of paradise, anthurium, and gloriosa lily, **Figure 25-10C**. Unique leaves also may be used.
- **Filler flower**—fine or airy materials used to fill in voids and often made of very small clusters of blooms or branched inflorescence. Statice, asters, wax flowers and baby's breath are common filler flowers, **Figure 25-10D**. Ferns may be used as filler foliage.

## Texture

The visual and physical qualities of a material compose its texture. Therefore, texture is experienced by both sight and touch. For example, a thistle's texture appears coarse and is prickly to the touch.



**A. Line Flower**

Tatiana Volgutova/Shutterstock.com



**B. Mass Flower**

LiuSol/Shutterstock.com



**C. Form Flower**

max777/Shutterstock.com



**D. Filler Flower**

Susii/Shutterstock.com

**Figure 25-10.** A—Delphinium have a strong vertical form and are available in shades of blue, pink, white, and purple. B—Mums are available in many colors and are one of the standard mass flowers. C—The gloriosa lily is a popular form flower because of its unusual shape and bold colors. D—Baby's breath is a one of the most commonly used filler flowers.

## STEM Connection Fragrance

Flowers need to attract pollinators to help them create offspring. Flowers evolved to produce fragrances as lures for specific pollinators. Some flowers exude a sweet aroma while others give off the smell of rotting meat (such as the carrion flower illustrated below). Regardless of how sweet or putrid the fragrance, there is a natural “partner” who will be lured by it and help the plant reproduce.

A floral designer must consider their customers’ sense of smell when choosing flowers for a specific arrangement. Some people enjoy fragrant flowers whereas others do not. Flowers such as stocks may be too sweet or overpowering for some people, but a gardenia may be a welcome fragrance. Potted spring bulbs, such as paperwhites, have a unique smell that may be offensive to some but enjoyable to others. Designers should talk to their customers about fragrances to ensure that both understand what fragrances should be avoided or included.



Graeme Knox/Shutterstock.com

An arrangement’s visual impact can be manipulated by adding various textures to the piece. As each component of an arrangement (plant materials, accessories, and containers) brings its own texture to a design, each piece must be carefully considered. It is recommended that at least three varying textures should be used. Some ways to add texture include:

- Using more than one type of foliage.
- Selecting containers and decorations that offer texture.
- Varying flower texture when including more than one flower with the same form.
- Using flowers at different growth stages (bud, slightly opened, and fully open).

## Types of Floral Design

Floral designs are often categorized by style. Some design styles are associated with countries or regions, time periods, or design shapes. Some designs have been popular during more than one period of history and many traditional designs are used as the basis for new, modern designs. However, most designs can be reduced to their basic geometric shape and their position on the line-mass continuum.

### Geometric Designs

When classifying arrangements, designers often categorize their work based upon the overall shape. Floral designs are configured based on shapes such as circles, triangles, and squares.

#### Circular

The circle is the most common geometric shape used by florists, **Figure 25-11**. Variations of this shape can include crescents, Hogarth curves, ovals, fans, and semi-circles.



Palo\_ok/Shutterstock.com

**Figure 25-11.** Hand-held bouquets typically use a circular shape. When viewed from the top, the bouquet appears circular. When viewed from the side, the rounded shape is visible.



## Corner Question



What type of triangles make up the Egyptian pyramids?

The Hogarth curve (an S-shaped circular design) may be constructed in a taller container, often with a platform or pedestal.

## Triangular

A triangular design has three sides and can vary greatly in shape. A triangle can be isosceles (two sides of equal length), scalene (no equal sides), or equilateral (equal lengths on all sides), **Figure 25-12**. Triangles may also be a right triangle, where one of the angles is  $90^\circ$ . Triangular designs can be symmetrical or asymmetrical. Stacking or inverting two triangles together creates a diamond-like shape and is known as a double-ended triangle design. This double-ended triangle may be assembled vertically or horizontally. Triangular designs are often configured for viewing from the front and sides, but not from the back.

## Square

Linear designs, such as vertical and horizontal arrangements, are based on the square design. A less common design created by combining a horizontal and vertical design is known as the *T-design*. This shape resembles an inverted T. Another design constructs a box-like effect and is referred to as the *hedgerow design*. The flowers and foliage of the hedgerow design are massed to create a cubed effect by placing plant material at the same level. This design mimics a row of hedges in a garden.

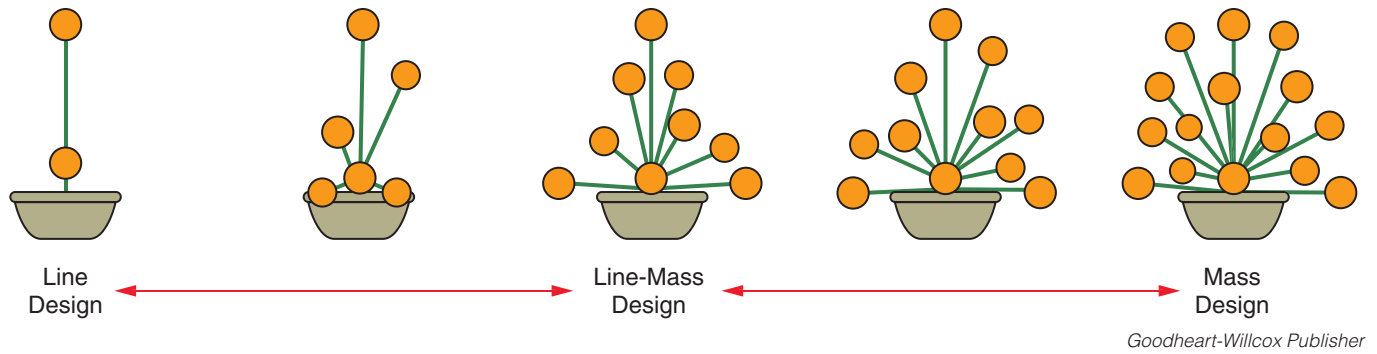
## Line-Mass Continuum Designs

Classifying floral arrangements based upon the line and mass within a design creates three basic design classes: line designs, mass design, and line-mass designs. Every floral design falls somewhere along the line-mass continuum, **Figure 25-13**.



**A** *Everything/Shutterstock.com*    **B** *Rob Hainer/Shutterstock.com*    **C** *Mayovskyy Andrew/Shutterstock.com*

**Figure 25-12.** A—An isosceles triangle has two sides of equal length. B—A right angle triangle has one  $90^\circ$  angle. C—An equilateral triangle has equal lengths on all sides.



**Figure 25-13.** The line-mass continuum.

## Line

A *line design* focuses on the lines rather than the flowers or foliage. Simplicity is key in this design format. Great expanses of negative space (voids in the design) coupled with precise placement of flowers and foliage characterize line designs. Line direction can vary from lines parallel to one another to a curvilinear design. Asian styles, such as ikebana, use line designs that manage negative space.

## Line-Mass Designs

A mixture of line and mass designs is the *line-mass design*. These designs depend on both line and mass characters. This design can often be seen in an equilateral triangle.

## Mass

A *mass design* is a floral arrangement in which form and mass are more important than the individual elements or lines. This style relies on the weight or form of plant material. Massing flowers or placing heavy quantities of flowers in close proximity to one another creates a mass design. These arrangements are designed to be viewed from any angle.

## Hands-On Horticulture

### Homemade Floral Preservative

A floral preservative extends the life of cut flowers. Commercially purchased floral preservatives can be found in small packages that accompany freshly arranged flowers or bouquets. Making your own floral preservative is easy and inexpensive. Follow one of these simple recipes.

**Recipe 1**—Mix one part of lemon-lime soda (not diet, the flowers need the sugar) with three parts water. Add 1/4 teaspoon household bleach to every quart (four cups) of solution you made. Use this final solution instead of plain water.

**Recipe 2**—Add two tablespoons of lemon juice to four cups (one quart) of warm water. Add one tablespoon of sugar and 1/4 teaspoon bleach. Add 1/4 teaspoon bleach to every quart of solution every four days.



## Containers, Tools, and Mechanics

A good floral arrangement should be visually pleasing and should endure for its intended duration of time. To extend the life of a floral arrangement, a container must hold water for the plant materials. The container must also support the plant materials securely. A proper design should not easily fall over but rather be secure and stable. To create a stable design, the appropriate container must be selected and the right tools used to create the arrangement.

### Containers

The main purpose of the container is to hold water (treated with floral preservative) and support plant material. The container may add to the design or, if improperly selected, will take away from it. Consider the color and texture of the container and include this in the overall design.

Although the container cost is usually only a fraction of the overall cost of the arrangement, it is still an important factor in its selection. Using simple, inexpensive glass containers help florists maintain a higher profit margin and reduce the cost for the consumer, **Figure 25-14**. Basic glass containers are versatile, durable, and easily cleaned. Since the stems and water of the arrangement are usually visible in a glass vessel, it is important to keep the stems neat and the water clear.

Almost any container that can be stabilized and modified to hold water can be used to hold an arrangement. Look for unusual and attractive containers made of ceramic, plastic, wicker, and metal to complement your design.



*Africa Studio/Shutterstock.com*

**Figure 25-14.** Although glass vases can easily be acquired in nearly every shape and size, most florists use simple, versatile vases for most of their arrangements.

### Tools

In floral design, as with many other tasks, using the right tool for the job can make the task much easier. Florists must cut plant material, foam, and tape. To cut materials properly, a florist must use extremely sharp tools. These tools include floral knives, scissors, shears, wire cutters, and stem strippers.

#### Floral Knives

A floral knife should be used to make exact cuts to plant materials. These knives can have folding or stationary blades. Plant material that is herbaceous (not woody) should be cut with a floral knife. A floral knife makes a clean, smooth cut and will not damage the stem. Floral knives should be used only on plant material. Use other knives or scissors for cutting items such as tape or wood supports. Knives can be sharpened for unlimited use.

#### Scissors and Shears

Designers use scissors or shears for a number of floral design tasks. Ribbon, fabric, netting, and other materials must be cut with sharp shears. Multipurpose utility scissors can cut very fine gauges of wire. Pruning shears are heavy-duty scissors with a spring action that are built to cut woody stems of plants. By-pass (scissors-like) or anvil (pinch type) shears can be used, depending on the preference of the designer.

## Safety Note

### Floral Knives

Use caution and proper techniques when working with floral knives. Follow your teacher's instructions and keep the following in mind when working with a floral knife:

- Stay focused on what you are cutting, and always cut in a direction away from yourself.
- Keep the knife in a safe accessible position when working, and properly store the knife when you are finished.
- Keep blades sharpened. You are more likely to cut yourself with a dull blade because you have to use more force to get the blade to cut.
- Keep knives clean to prevent the transmission of bacteria.
- If you cut yourself, immediately seek or apply first aid. Clean your wound and dress it properly. If working in class, always tell your instructor if you have cut yourself, regardless of the size of the cut.

## Corner Question

What rock band misidentified the dermal appendages of a rose in the song *Every Rose Has Its Thorn*?



Pruning shears can be sharpened and must be properly cared for to ensure a long life. Only plant materials, not wire or fabric, should be cut with pruning shears.

### Wire Cutters

Wire cutters cut metal by pinching. Artificial flowers and wires can be cut using a good pair of wire cutters, **Figure 25-15**. Every florist must ensure they have a pair nearby.

### Stem Strippers

The stems of roses have prickles (thorn-like epidermal tissue), which can injure a person's skin. Some varieties of roses have many more prickles than others. A *stem stripper* is a tool that can be used to remove prickles or thorns from the stems of plants. Stem strippers can also be used to remove leaves that would fall below the water line in an arrangement. The skin of the stem (epidermis) should not be damaged when removing prickles or leaves. Damaged skin will affect the ability for a plant to take up water.

### Ribbon

Not all floral designs incorporate a bow or a ribbon; however, many arrangements include or may even focus on a ribbon. A ribbon may be methodically looped to create a bow. Bows are often used to adorn wreaths or potted flowers, such as Easter lilies or Christmas cacti. A bow may also be part of a *corsage* (an arrangement of flowers pinned to clothing or worn on the wrist), **Figure 25-16**. The ribbon adds texture, color, and pattern.



Andrei Kuzmik/Shutterstock.com

**Figure 25-15.** Wire cutters are an essential tool for florists.



Fleming Photography/Shutterstock.com

**Figure 25-16.** A bow can be a substantial part of a corsage design.



## FFA Connection Floriculture CDE

At a local, regional, or state level, the artistry and engineering of manufacturing the perfect floral design bow can be a competition. An FFA member is given the materials to create a bow. The member has only five or six minutes to construct an arrangement with good mechanics and artistry. Check with your FFA advisor and see if a competition exists in your state for making a florist's bow.

### Types of Ribbon

Designers commonly use nylon and acetate satin ribbon. Nylon ribbons often have wired edges, which helps them hold their shape in bows or arrangements. The wire may also help keep the fabric from absorbing moisture. Satin ribbons can be single-faced (one side is shiny and the other is dull) or double-faced (both sides are shiny). Velvet ribbon is often used at Christmas. Ribbon made with burlap may be a festive choice for fall.

### Sizes of Ribbon

Ribbon is sold in bolts of 25, 40, or 100 yards. The size of ribbon is based on the width of the material. The higher the number of the ribbon, the wider the ribbon. Florist ribbons can include sizes #1, #2, #3, #5, #9, #40, and #100. The #1 size ribbon is 6/16" (.95 cm) wide. The #100 size ribbon is 4" (10.16 cm) wide. Various arrangements will include unique sizes of ribbons. For instance, a #1 ribbon may be used to make a corsage, a #9 or #40 for a bow on a wreath, and a #100 for a casket arrangement at a funeral.

### Bows

Over the course of a designer's career, he or she will most likely make thousands of bows. Designers make bows using many different materials and techniques. Types of bows can include graduated loop bows, layered bows, puffy bows, tailored bows, and pinch bows. The pinch bow is commonly considered the standard technique for making floral design bows.

### Mechanics

The materials that are used to secure items in place and the methods used are known as the *mechanics* of a floral design. Mechanics are concealed by precisely placing plant materials and ornaments. A viewer should not be able to easily see how the arrangement is secured. Materials used to secure the components of a floral arrangement include floral foam, tape, glue, wire, pins, picks, and stakes.

# Hands-On Horticulture

## Tying a Bow

Images: Jodie Riedel/Goodheart-Willcox Publisher

The materials needed for this bow are floral stem wire (22 gauge), green floral tape, ribbon (bolt of #9), and scissors. The measurements given may be modified to suit different size ribbons. Prepare the floral stem wire before you begin tying your bow by cutting it to size and wrapping it with the floral tape. Set the wire aside.



1. Measure 1"–2" from the end of the ribbon. Hold the ribbon at this point between the thumb and forefinger of your "holding" hand. Pinch the ribbon and turn 180°. Continue pinching with the shiny side of the ribbon below the pinch and the dull side above the pinch/turn.



2. Measure the next 2"–3" and pinch/twist 180° with the thumb and forefinger of your opposite hand. Bring your hands together to form a loop with the ribbon. Grip the loop between the thumb and forefinger of your holding hand. Only the shiny sides of the ribbon should be exposed.



3. Measure the next 6" and pinch/twist with the thumb and forefinger of your free hand. Fold the ribbon over and pinch/twist with your holding hand. After making the first two loops, you should see a figure eight.



4. Measure another 6" and fold the ribbon over to form another loop. Pinch/twist and stack directly underneath the previous loop. Continue forming new loops in the same manner until you have at least four loops on each side.



5. Once the four loops are on each side, create a tail that will be placed directly under your last loop. Cut a piece of ribbon approximately 12"–14" long. With the shiny side up, stake this underneath the last pinch/twist. Insert the floral stem wire through the central loop on top of the bow and bend it to form a U shape.



6. Bend the loose ends of the wire around the bottom of the bow and through the U part of the wire to form a knot. Pull to tighten. Separate the loose ends of the wire and pull opposite of each other to tighten. Hold the wire and twist in a clockwise motion several times to secure. This can then be secured around a stake and placed in a potted plant or on an appropriate wreath or floral arrangement.



7. Cut the tails of the ribbon as desired.



8. Fluff the loops of your bow to create a concentric circle, with a full appearance.



**A** Agnes Kantaruk/Shutterstock.com



**B** Goodheart-Willcox Publisher

**Figure 25-17.** A—Floral foam may be cut to fit securely in a container. B—Tape may also be used to secure floral foam in place.



Goodheart-Willcox Publisher

**Figure 25-18.** Grids can be constructed in vases by using tape or wire.

### Did You Know?

Wet floral foam should not be forced underwater. Forcing the foam underwater may leave the inner part dry and ultimately result in wilted plant materials.

## Floral Foam

Floral foam is used to hold plant materials in place in arrangements using containers other than glass vases. Hydrophilic foam (material that can absorb water) also provides a means of holding water for fresh flower arrangements. Hydrophobic foam, such as those made of urethane and polystyrene, resists water and is used for artificial or dried-flower arrangements.

Wet floral foam is a hydrophilic material that absorbs water and can be used to help keep cut flowers and other plant materials in an arrangement fresh. This type of foam is easily dented (compressed) and should be handled with care. Once the foam is cut to size, it must be soaked in clean water that is deeper than the height of the block. When placed in the water, the block will float until its pores fill with water. Once the block is saturated, it will sink below the water surface. This process takes only about a minute. The floral foam can be cut to fit securely in the container and to make the top of the foam level with the container, **Figure 25-17A**.

Wet floral foam may also be secured to the container using waterproof tape. The outside of the container must be dry for the tape to adhere securely, **Figure 25-17B**. If the foam is to be glued to the container, it must be glued before being soaked in water.

## Securing Plant Material in Vases

Designers use a matrix or grid to secure the plant material stems in vase arrangements. The most commonly used grid is a system of woven or interlocking pieces of adhesive tape, metal, or wire. The grid can be attached to the clean and dry rim of a glass container, **Figure 25-18**. You may also interlace plant material stems to secure flowers and foliage in place.

Decorative materials, such as marbles, beads, fruit, and rocks, may also be used to hold stems in place and add to the design. These materials hold the stems in place but can also hasten the development of bacteria and fungi in the water. These materials should be used for floral arrangements that are expected to live only a short time.

## Safety Note

### Materials in Water

Using a variety of materials in water can create a dramatic effect but can also add weight to the container. Glass containers with thin walls can easily be broken. They may make the container too heavy for safe transport. To prevent breakage and ensure safe transport, use glass vessels with thick walls when using other materials within the container.



## Tape and Glue

Several types of tape, glue, and adhesives are used in floral design.

- Waterproof tape is an adhesive tape that is manufactured in 1/4" (.635 cm) and 1/2" (1.27 cm) widths. This can be found in various colors.
- Floral tape (also referred to as stem wrap or bowl tape) is made of paraffin-coated crepe paper. It will adhere to itself when stretched and wrapped. This tape is often used to cover metal wire or stems of plant material.
- Hot glue is plastic glue that is heated by a glue gun or skillet that can be used to secure floral materials or mechanics in a design. Hot glue is used only for embellishments, foam, or dried flowers. It cannot be used for live plant materials.
- Adhesives are substances that adhere plant materials and mechanics. Some adhesives may only be used with dry materials while others may be used to secure wet plant materials. Do not get adhesive on the ends of stems or they will be unable to take up water.

## Wire

Wire ranges in size and length. Florist wire is sold in 12" (30.48 cm) and 18" (45.72 cm) lengths, as well as on spools or paddles. The thickness of the wire (also called gauge) is made to meet the needs of various floral mechanic applications. The higher the number of the florist wire, the thinner the wire. Gauges run from 16 to 32. Florist wire is painted dark green to blend in with the design and to prevent rusting and breakage.

## Pins, Picks, and Stakes

Pins are used to secure materials or hold small arrangements in place.

- *Greening pins* are made of wire and bent into a u-shape. They are commonly used to secure items into foam.
- A *corsage pin* or *boutonniere pin* is a straight pin with a decorative pearl on the end. This pin is used to secure the corsage or boutonniere to the lapel of a jacket or the front of a blouse.
- *T-pins* are pins shaped like a T and can be used to place fabric or ornaments into a design.
- *Wood picks* are small sticks that are pointed on one end and used to secure floral items in an arrangement. These wooden picks can have pieces of wire attached so that flowers or ornaments can be affixed to the pick and then secured into foam or the grid of the arrangement. Bows and other ornaments can be attached to picks and inserted into wreaths, potted plants, centerpieces, and other arrangements, **Figure 25-19**.
- *Plant stakes* are small stick-like supports used to hold up plant material in a floral arrangement or potted plant. They can also be secured to the floral design with wire, glue, or an adhesive.

## Safety Note

### Hot Glue

Hot glue can be dangerous. Use low-temperature glues until you are more experienced using a glue gun or glue skillet.

“I was reading a book... “the history of glue.” I couldn’t put it down.”  
—Tom Vine



Jodie Riedel/Goodheart-Willcox Publisher

**Figure 25-19.** Bows may be attached to wood picks with tape or wire.

## Did You Know?

The ancient Greeks wore corsages at weddings to ward off evil spirits.

# Flower Arrangements

Some floral arrangements, such as corsages and boutonnieres, are worn by a person. Others can be carried, such as a bridal bouquet or pomander. The majority of flower arrangements are stationary and are used to beautify a room, send a friendly message, or express sympathy.



*Valenty\_n\_Hontovyy/Shutterstock.com*

**Figure 25-20.** A boutonniere may have one or several flowers, as well as accent pieces.

## Corsages and Boutonnieres

Corsages and boutonnieres are created for special occasions, such as formal dances and weddings. The design can be very simple to extremely elegant and unique, **Figure 25-20**. Although corsages and boutonnieres are not usually intended for more than a day's use, they should be well constructed and last throughout the event. The materials should be lightweight so they can be pinned to clothing and not pull at the fabric. The piece should not restrict the wearer's ability to move about freely at the event.



## Bouquets

Bouquets are also designed for special occasions such as weddings and pageants and must be constructed to last the duration of the event. The basic geometric shape of a bouquet is round, but there are many variations of this shape. Waterfall, cascade, and crescent shapes are simple and subtle changes from the typical round design, **Figure 25-21**.

## Did You Know?

Centuries ago, people would tear pieces from the bride's gown and flowers to reap the benefits of her good fortune. The bride would try to escape from the crowd by tossing her bouquet as she ran away. Today, the bouquet is tossed with the belief that the woman who catches it will be the next to marry.



**A**

*titov dmitriy/Shutterstock.com*



**B**

*Ekaterina Pokrovskaya/Shutterstock.com*

**Figure 25-21.** A—This hand-tied bouquet has a traditional round shape. B—The flowers in this cascade bouquet flow from the round, main part of the bouquet.

## Holiday Centerpieces

Many people decorate their homes for holiday seasons. Christmas, Hanukkah, Thanksgiving, Halloween, Fourth of July, Easter, St. Patrick's Day, and Valentine's Day are commonly celebrated in homes throughout the United States. To enhance the holiday spirit, many people place a holiday centerpiece on the dining table. The holiday centerpiece contains plant materials that accompany the season and novelties or ornaments that help to create additional holiday sentiment, **Figure 25-22**.



*Goodheart-Willcox Publisher*

**Figure 25-22.** Holiday flowers may include traditional and/or exotic flowers along with seasonal accents, such as the gold-painted pine cones.

## Wreaths

Many florists construct wreaths for various holidays. Some nurseries and greenhouses offer wreaths to supplement off-season sales as well. Wreaths are constructed using a variety of plant materials (which usually vary by season) and different types of frames.

- Boxwoods, pines, firs, arborvitae, cedar, magnolias, and many other evergreen plant materials can be used to create a long-lasting wreath, **Figure 25-23A**.
- Fruit and nuts, such as lemons, apples, crabapples, pears, pecans, walnuts, and pine cones, are used in fall and winter wreaths, **Figure 25-23B**.
- Wreaths usually include a bow and ornaments to complete their festive look. Wreaths can be constructed with a box wreath frame that is hand-wired or with a wreath frame system.



**A**

*EQRoy/Shutterstock.com*



**B**

*AGfoto/Shutterstock.com*

**Figure 25-23.** A—Various types of evergreens make long-lasting holiday wreaths. B—A fruit and nut wreath is a unique addition to the holiday season.



## Hands-On Horticulture

### Increasing the Shelf Life of Bouquets

Proper care and handling of a bouquet of fresh flowers and foliage can make the bouquet remain attractive longer.

If the bouquet is already in water:

1. Place the bouquet in a draft-free area (away from heating and cooling devices). Keep it away from ripening fruit.
2. Change the water every two days, and clean the container with hot water and soap. Add 1/4 teaspoon bleach or commercial floral preservative to every quart of water in the container.
3. Quickly remove any leaves or petals that fall into the water. Water, along with bacteria and fungi, speeds decomposition of organic matter.

If the bouquet is not in water:

1. Keep the bouquet upright (if possible) until it is placed in its container.
2. Cut the ends of stems with clean pruning tools at 45° angles to fit the size of the container. The container should be one-third of the entire height of the arrangement.
3. Remove any leaves that will come in contact with the water inside the container.
4. Place the bouquet in a cool place, away from heating and cooling vents. Keep it away from ripening fruit.
5. Change the water every other day and add floral preservative or 1/4 teaspoon bleach for every quart of water.

## Careers

The floriculture industry offers many interesting career options. Opportunities range from the growing and production end to the marketing and distribution of the finished product. Wholesale distributors and floral merchandisers are just two of many career opportunities available in floriculture.

### Wholesale Distributor

A wholesale distributor purchases plant materials from around the globe and sells the materials to retailers, florists, and other businesses. A wholesaler also sells containers, floral design supplies, ornaments, ribbons, and other accessories as well as equipment such as buckets and cutting tools.

A wholesale distributor usually employs a number of people in full-time and part-positions. These positions include those responsible for receiving, processing, and storing plant materials; designers; buyers; and managers. In smaller companies, one person may be responsible for multiple tasks. This is especially true of managerial positions. The manager of a wholesale distributor company may be responsible for purchasing, receiving, and distributing products. The manager may need to keep financial records, hire and train employees, and establish work schedules.

A wholesale distribution manager must be an excellent communicator with supervisors, employees, and customers. The ability to manage a budget, use computer software, and demonstrate math and analytical skills is important for a person in this position. This person must also be able to do some laborious tasks, such as lifting plant materials.

Wholesale florist distribution managers can be found in major cities around the world, **Figure 25-24**. Hours for this career may include day or night shifts.

## Floral Merchandiser

Wholesale floral companies create bouquets at a warehouse and then distribute the bouquets and other plant materials to retailers around the country. The floral merchandise is shipped to retail stores and placed in display cases. The floral merchandiser travels to retail store and ensures that the stock is fresh and displayed in an effective and attractive manner. The store's supply of ready-made bouquets must be replenished four to five times per week. Other duties for this position include cleaning the display unit, replenishing supplies, taking a weekly inventory, and developing good relationships with store personnel. Some horticultural knowledge is helpful. Job training for this position usually occurs within the company.



*Jordan Tan/Shutterstock.com*

**Figure 25-24.** Wholesale buyers may need to travel to international markets, such as this one in Amsterdam, to purchase plant materials.

## Career Connection Anna Passarelli

### Floral Designer

Anna Passarelli became interested in floriculture while attending an urban high school in Raleigh, North Carolina. Anna had always enjoyed her mother's garden and was further inspired by her horticulture lessons. She earned an Agricultural Business Management and Horticulture degree from the Agriculture Institute at North Carolina State University and worked in the landscaping industry for several years before she found her true calling: designing wedding flowers.

Anna started Simply Elegant, a wedding and event design company. Originally, Anna was focused on wedding flowers for brides on smaller budgets. Today, however, her company has grown and now offers dozens of wedding options to fit a wide range of budgets for the bride's big day. Anna communicates with her customers and audience through fresh images of the day's flowers posted to various social media sites.

Anna suggests student interested in floral design should begin by studying and learning to identify the many types of flowers. She suggests,



*Lauren Jolly Photography*

Anna Passarelli, a former FFA member, owns her own floral design business called Simply Elegant.

“Students need to learn that a rose is not just a rose. There are thousands of them out there to explore, and some roses don't even look like roses.” She also suggests students should begin working with small arrangements such as corsages and boutonnieres.



# CHAPTER 25

## Review and Assessment

### Chapter Summary

- Floral designs are often used to decorate spaces for formal occasions, to express congratulations or caring to friends or family, and to decorate homes for holidays and special occasions.
- Floral designers construct floral arrangements based on design principles and elements. Design principles include balance, symmetry, proportion, scale, focal point, rhythm, unity, and harmony.
- Mechanics are the devices and techniques used to keep floral placements secure and stable in a design. Poor mechanics, support, anchorage, or footings contribute to poor balance.
- Floral designs can be symmetrical or asymmetrical. Flowers, foliage, or other materials can be used to create a focal point in a design.
- Design elements include color, line, form, and texture. The element that impacts most viewers immediately is color.
- Floral designs are often categorized by style. Categories of floral design include geometric designs, line-mass continuum designs, traditional designs, and contemporary designs.
- Designers use various containers, tools, and materials to construct floral designs. Types of containers for floral arrangements include glass, ceramic, plastic, wicker, and metal. Floral knives, scissors, shears, wire cutters, and stem strippers are tools used by designers.
- Some materials that can be used to secure the mechanics and other components of a floral arrangement include floral foam, tape, glue, wire, pins, picks, and stakes.
- Common floral arrangements are those that are worn or used for special occasions and holidays. Corsages, boutonnieres, and bouquets can be worn or carried. Floral centerpieces and wreaths are used for events, special occasions, and holidays.
- The floriculture industry offers many interesting career options including wholesale distributors and floral merchandisers.





## Words to Know

Match the key terms from the chapter to the correct definition.

- |                        |                     |                       |
|------------------------|---------------------|-----------------------|
| A. asymmetrical design | I. harmony          | Q. mechanics          |
| B. boutonniere         | J. hedgerow design  | R. proportion         |
| C. color harmony       | K. line             | S. rhythm             |
| D. corsage             | L. line design      | T. scale              |
| E. filler flower       | M. line flower      | U. stem stripper      |
| F. focal point         | N. line-mass design | V. symmetrical design |
| G. form                | O. mass design      | W. T-design           |
| H. form flower         | P. mass flower      | X. unity              |

1. A pleasing interaction or blending among the elements of a design.
2. A design in which a nearly identical or mirrored arrangement of plant materials is used on both sides of the central vertical axis (CVA).
3. The relationship among elements in a work of art that makes them appear to belong together or function as a whole.
4. A floral arrangement in which form and mass are more important than the individual elements or lines.
5. A floral design that is patterned after a garden hedgerow.
6. A floral arrangement created by combining a horizontal and vertical design that resembles an inverted T.
7. A flower that is unique in some manner (color, shape, texture, or size).
8. A pattern of repeating or alternating elements in a design that suggests a sense of movement.
9. The size relationship between two objects, such as between a floral design and its surroundings, or among the various elements within a design.
10. A small floral arrangement that is worn on the lapel area of clothing.
11. A tool used to remove prickles from stems of plants.
12. An arrangement of flowers pinned to clothing or worn on the wrist.
13. Fine or airy materials used to fill in voids and often made of very small clusters of blooms or branched inflorescence.
14. A closed-form, single flower that has a dense, round shape.
15. The visual path that creates the foundation, shape, and form of a floral arrangement.
16. A floral arrangement that emphasizes lines rather than the plant material.
17. Guidelines for combining colors and color values in a design.
18. The area of dominance or emphasis, as within a floral design, to which the eyes naturally travel.
19. The devices and techniques used to keep floral placements secure and stable in a design.
20. A design in which the visual weight is equal on both sides of the central vertical axis (CVA), but the sides are not mirror images.



21. A floral arrangement in which a mixture of line and mass designs is used.
22. A flower that has a long stem, a spike, or linear form.
23. The overall shape of a floral arrangement or the shapes of the individual materials used in an arrangement.
24. The relative sizes and amounts of elements in a design.

## Know and Understand

Answer the following questions using the information provided in this chapter.

1. What are some reasons or occasions for which floral arrangements are used?
2. What are the principles of design and how are they used in floral design?
3. How are symmetrical and asymmetrical floral arrangements different?
4. Generally, how much larger should plant material be than the container to maintain pleasing proportion?
5. In a floral arrangement, what types of materials can act as the focal point?
6. Describe briefly three underlying principles that contribute to the effect of harmony in a floral design.
7. Describe four color schemes that may be used in floral design.
8. Describe four forms of flowers and foliage.
9. What is the rule of thumb for incorporating texture into floral arrangements?
10. What are the three geometric shapes used for floral designs?
11. What are the characteristics of a floral arrangement that uses line design?
12. What are the characteristics of a floral arrangement that uses mass design?
13. What are some types of containers that can be used for floral arrangements?
14. What are some tools that floral designers use in creating floral arrangements?
15. What are some safety procedures to follow when using floral knives?
16. Describe the FFA CDE floriculture event that involves making bows.
17. What are some materials that can be used to secure the components of a floral arrangement?
18. What can designers do to improve safety when using glass containers for floral arrangements?
19. What are some job duties of a floral merchandiser?

## Thinking Critically

1. You recently hurt someone's feelings and want to give the person flowers as a way of saying that you are sorry. What flower or flowers would be best suited for this type of expression?
2. Your boyfriend or girlfriend has invited you to the prom. There are several expenses involved, such as buying clothes, dinner, tickets, and pictures. What could you suggest to help alleviate the costs associated with the corsage or boutonniere besides just omitting this floral arrangement from the night altogether?

## STEM and Academic Activities

1. **Math.** Determine how many flowers must be purchased for a dining hall used for a wedding if 40 tables will have 30 flowers each on the centerpieces. In addition, the cake will need 20 flowers, the bride and groom's table will need 100 flowers, and the two bathrooms will each have 10 flowers. What is the total needed for the wedding reception?
2. **Engineering.** Design a flower arrangement for a table that is 30" long that will be in a banquet room feeding 22 guests. The room's colors are neutral and the event is celebratory.
3. **Math.** A dozen roses arranged at Valentine's Day can cost up to \$75 for delivery to a customer from a florist. A dozen roses that are arranged at a wholesaler or box store will cost less than half that price. What causes the difference in price between a florist and a retail store?
4. **Social Science.** Contact a local florist and ask them to donate leftover floral magazines or publications for use at your school.
5. **Language Arts.** Compose a list of essential flowers and arrangements for a successful prom season. Justify your choices of flowers.

## Communicating about Horticulture

1. **Reading.** Create an idea board for a specific holiday or event. Be sure to include ideas for flower arrangements, colors, and what should be included to make this event a floral design success.
2. **Reading and Speaking.** Recently, there has been a surge in the production of locally grown cut flowers. Research a farm in your area or state that sells cut flowers. Contact the grower and see what flowers are being grown right now at this farm.

## SAE Opportunities

1. **Exploratory.** Job shadow a floral designer.
2. **Experimental.** Use various types of glues or adhesives for a corsage or boutonniere. Determine which type of adhesive holds up to the most wear and damage.
3. **Exploratory.** Create a survey to determine your peer's attitudes toward fresh flowers. Construct questions that use scales to better analyze the data. Use your data to create a report with findings and suggestions for the floral industry in relation to your generation.
4. **Entrepreneurship.** Develop a floral design service.
5. **Placement.** Get a job working at a floral shop.



Jodi Riedel/Goodheart-Willcox Publisher