UK UNIVERSITY OF KENTUCKY® College of Agriculture

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Color Basics

Color is a powerful design tool that affects a room's appearance as well as your feelings. It surrounds us, intrigues us and excites us!   We plan for its use in our homes and workplaces. Planning colors for our living environment begins with an understanding of color. What is color? How does it affect us? The answer depends on whether you are viewing color through the eyes of a psychologist, physicist, chemist or a designer.

What Is Color?
The sensation of color does not exist without light. Sunlight is composed of colors of the spectrum. White light, such as sunlight, is a mixture of all colors as seen through a prism. Light is a "wave motion" or form of energy. Colors have different wavelengths that are longer for the red end of the color spectrum and shorter at the violet end. Each color has a different energy. When light strikes an object, the particles of energy may be reflected or absorbed. The eye sees the color of an object by the light reflected. If light falls on an object that absorbs cool colors, such as green, the object will reflect the complement or warm colors, such as red. Black absorbs and white reflects nearly all the light waves.

Color Talk
Every color has several dimensions. The following chart shows various words used to describe the characteristics of color.

Name	Definition	Examples
Hue	Name of color or family of colors.	Red, blue, orange, etc.
Value	The degree of lightness or darkness; the amount of white or black added to the pure hue. Middle values usually seen on a color wheel.	Yellow has the lightest normal value while blue-violet has the darkest value.
Tint	Lighter value made by mixing white to a hue.	Pink is a light value or tint of red.
Shade	Darker value made by mixing black to a hue.	Burgundy is a dark value or shade of red.

Name	Definition	Examples
Intensity or Chroma	The quality of brightness or dullness; the amount of grey added to the pure hue; the strength of a hue or complementary color.	Brown is a dull, low strength or intensity of orange; beige is a dull yellow.
Primary hues	Hues that can't be obtained by mixtures of any other hues; basis for other pigment colors.	Red, yellow and blue.
Secondary hues	Are produced from mixing equal amounts of two primary hues.	Orange, green, violet.
Intermediate hues	Colors made from mixing primary and secondary hues.	Yellow and green forms yellow-green.
Warm hues	Have longer wave lengths. Seem to advance or come closer to the viewer.	Yellow, orange and red.
Cool hues	Have shorter wave lengths. Seem to recede or move away from viewer.	Blue, green and violet.
Complementary Colors	Colors located directly across from each other on the color wheel.	Red and green are complementary colors. Blue and orange is another example.
Afterimage	Occurs after staring at one hue for a time. Photo receptors of the eye become temporarily fatigued. When the eye then looks at a white surface, the complementary color will be seen.	After staring at red, red-sensitive photo receptors of the eye tire. When the eye looks at a white surface, the photo receptors sensitive to green will fully function and the complementary color green is seen.

Color Systems

Since there are over 9 million colors known to exist, various color systems are used to help bring order to them and to provide a method of seeing relationships between colors. The Munsell Color Tree and Prang systems are two examples of systems used by artists and designers. The Prang color wheel is a commonly used mechanical arrangement that uses the twelve basic hues. The primary hues (red, yellow and blue) are placed at equal distance, in a circle or wheel. The secondary colors are placed halfway between

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the primary colors and the intermediate colors, placed between primary and secondary colors, as appropriate.

Standard Color Harmonies

Traditionally, colors were chosen to reflect definite color schemes. However, designers today may reject rules in favor of more freedom of expression. The use of color harmonies provides a starting point, but we can be creative by allowing ourselves to develop a sense of color awareness and harmony. Therefore, the combination of color guidelines and using a freedom of expression can be of benefit in planning color schemes.

Awareness of traditional color harmonies is useful in understanding why certain colors work together. Many color harmonies are suited to a home, but they are rarely used without some changes or alterations. Often they are used simply as a guideline.

Type	Name	Description	Example
Related	Monochromatic	Uses one hue in varied values and intensities. Add textures and patterns to add interest.	Pale, medium and dark blue.
Related	Analogous	Three colors located next to each other on the color wheel. They all share a color. Offer more variety of interest yet appear unified.	Green, blue-green and yellow-green.
Contrasting	Complementary	Hues located directly opposite each other on color wheel. Has contrast and sense of action; introduces both warm and cool colors. Create better harmony if one of the colors is lowered in value or intensity.	Red and green; orange and blue.
Contrasting	Split-complementary	Uses one color and the two colors on either side of the complementary color.	Red, yellow-green and blue-green.
Contrasting	Triad	Uses three colors that are equally spaced from each other on the color wheel. Almost any color combination can be used in developing color harmonies.	Red, yellow and blue.

Ideas for Creating Color Schemes

When planning a color scheme, for a room or for an entire house, there has to be a starting place. With a basic understanding of color and color systems, plans can be developed from (1) color wheels or schemes, (2) consultations with professional interior designers or (3) existing color harmonies in furnishings or nature. By breaking down and analyzing an existing item and then using the colors in similar or varying proportions, the individual uses the work of a professional artist or designer. Some suggestions of sources for color schemes are:

1. **Works of Art.** This may be a painting, a wall hanging or an unusual accessory. Study it carefully: What colors are used in it? How are they combined? What are the proportions of one color to another? What colors are placed next to each other for certain effects? Proportions of color in the picture can be followed or other proportions can be used. You can choose which color to emphasize, which ones to use in small amounts and which to eliminate.
2. **Fabric.** This is perhaps the easiest source from which to develop a color scheme. It may be drapery, upholstery or slipcover fabric, rugs or linens.
3. **Wallpaper.** Patterned wallpaper used on all the walls or for an accent area can provide a source of color combinations.
4. **A View.** The lovely view from your window can be made a part of the interior. This is, however, one of the more difficult sources of a color scheme. One season (the longest or your favorite) may be chosen and the view studied like a painting. Determine the colors and the proportions you see and build your color scheme from there.
5. **Favorite Color.** Your likes and dislikes in color will often dictate the starting point of a color scheme. It may help to first select a paint, wallpaper, floor covering, fabric or accessory in the color you want to use.
6. **Dinnerware.** The color scheme for your dining room could be taken from the design on your dinnerware. The method proves to be a dramatic decorating device. It will be especially effective if a few handsome pieces are displayed in a china cupboard.
7. **What You Already Have.** Many of us find it necessary to work around a few furnishings that must be kept. This may be a carpet, wall treatment or pieces of furniture. If the item is multi-colored, use it to build a color scheme in the same way you would use a fabric. If plain, it can become the dominant color with other colors harmonizing with it.

Combining Colors

Keep several things in mind as you plan and select colors.   It's usually best to keep the backgrounds and large pieces of furniture in more subdued colors. Large amounts of bright colors are hard to live with over a long period of time. In general, the smaller the area of color, the brighter it can be. Have a plan for colors within a room. It's best to decide on a primary color, secondary color and two or three accent colors.   Select colors for the largest areas first—floor coverings, walls,   large upholstered pieces. Next, choose colors for small upholstered pieces and for window treatments. These colors may either match (blend) or contrast (emphasize) with walls. Select colors for accessories and small areas last. Since accessories and smaller furnishings are more easily and often less expensively, changed, these items may be in brighter or trendier colors. Repeat

> **HELPFUL HINT...**
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> If selecting paint, fabrics and wall coverings at the same time, it will be easier and less time consuming to select the fabric and wall covering first.   Paint can then be mixed to match any hue, value and intensity you need.

these accent colors throughout the room to provide a flowing feeling as your eye moves from one item to another.

All of the rooms in a home will seem to belong together if colors are "keyed". This means that one color is carried over and used in some way in adjoining rooms. The color need not be used in the same shade or degree of brightness. For example, green may be a dominant color in one room and used as an accent in the next. Allowing colors to flow from one room to the next will add unity and spaciousness to your living areas.

While planning your color scheme, it is helpful to collect samples of colors you expect to use in the form of fabric swatches and paint chips. This will let you see how the colors look when placed next to each other. Remember, however, that colors in larger areas will look more intense and darker than they do in small swatches.

Light And Color

Colors reflect nearby colors. No color stands alone. When two colors are placed side by side, each undergoes apparent change. For example, red placed near or against yellow can take on an orange cast.

Natural light coming into a room may be reflected from a nearby surface, such as green shrubbery or the color of the house siding next door. Night lighting can make a dramatic change in color. For instance, cool white fluorescent gives a bluish cast while incandescent has a golden glow.

Colors should always be tried together in the location where they will be used and any changes noted before plans are completed and purchases made. Use as large a color or fabric sample as possible and place it on the surface where it will be used (drapery fabric at the window, carpet sample on the floor). Observe under both natural (daylight) and artificial (nighttime) lighting conditions.

Remember, colors reflect into color and will build up in strength. A small color chip sample for wall paint does not appear the same when the hue is applied to all four walls. To compensate for this fact in choosing wall paint, choose a color several degrees lighter and less intense than the desired color shown on a color chip. If possible, buy a pint of the color you are considering and paint a section of the wall to test the color. Or paint a sheet of white poster board or white paper and tape to the wall to evaluate the effect over a day or two under different lighting conditions.

Colors are affected by the amount of light, the angle of light, the color of reflected light and the nearby colors. White or very light colors reflect light, making a house or room appear larger and giving the interior an airy quality. These colors emphasize the shadow effects of carvings, flutings and textures of brick and stone. Care must be used, however, because they also may emphasize any surface irregularities and flaws. Since these colors reflect more light, there may be a problem with glare in rooms where there is an overabundance of sunlight.

Surfaces directly facing the light source will reflect the most light. In an interior, the floor will reflect more light than any other surface; the ceiling will reflect the least. A light colored floor will do more to make a room look spacious than a light ceiling.

Black or very dark colors will make a room or house seem smaller. Since dark colors reflect very little light, they minimize surface and architectural irregularities. Black appears far heavier than light colors or white. It also makes the sheen of a gloss finish more noticeable.

Black and dark colors absorb light and require increased lighting in a room. A light floor covering helps to balance and reduce the effect of heaviness. Light or bright accent colors used with these colors also help reduce their heavy effect.

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