

# idi Design Thinking

## Principles & Elements of Design

In order to produce good design, whether in the form of graphics, painting, sculpture, architecture or interiors, you must have a sound understanding of the elements and principles of design.

The **elements** of design are the materials from which all designs are built. The **principles** of design might be defined as the rules, which govern the way the elements may be combined. As an example, if you were baking a cake, the elements would be the ingredients and the principles the directions of the recipe. In other words, a principle is a law of relationship or plan of organization that determines the way in which elements must be combined to achieve a particular effect. The elements of design are:

- Line - Lines can be horizontal, vertical, dotted, zigzag, curved, straight, diagonal, bold or fine. They can be used to show direction, represent an object divide a space or communicate an idea.
- Direction - The four primary directions are horizontal vertical, left oblique and right oblique Direction relates to line.
- Form - Form is derived from three basic geometric shapes: the triangle, square and circle. An oval is a variation of the circle; the rectangle, a variation of the square. The diamond is derived from two triangles: a sphere is a 3-dimensional circle. The free form is a more complicated version of the circle.
- Scale - Lines and shapes and the space intervals between them may differ in measure. Those that are of similar size will be harmoniously related; those that differ greatly will be in strong contrast.
- Space - Space refers to the positive and negative areas of a composition. The positive area is the part that you are first aware of - the combination of shapes that form the image you see. The negative space is the background area, which is created when shapes are put together.
- Texture - This is the surface quality of any material. It can be of two types; actual (tactile) and implied (visual). Tactile means something that can be felt -it is 3-dimensional and directly related to the sense of touch. Sandpaper is rough, velvet soft & smooth. You can actually feel these textures. A photograph of a brick wall, which would look rough but would be smooth to the touch, might show an implied or visual texture.
- Value - Refers to the lightness or darkness of an area. Its extremes are white and black with all shades of gray ranging from very light to very~ dark.

Color - Color, like sound, is a vibratory phenomenon. Each color is like a musical note, red having the longest wave length (like a deep, low pitched sound) and violet, the shortest (like a very high-pitched sound). Color is a form of radiant energy and its range is unlimited. It consists of several ingredients: hue, value, and chroma. Hue refers to its redness or blueness, etc: value refers to its lightness or darkness & chroma or intensity refers to its brightness or dullness.

Knowing the **principles** of design does not guarantee success - each individual interprets them in his/her own way, some more successfully than others. Individual interpretation begins with awareness. Learn from others, from nature and from the past as well as the present. You will discover as your ability to recognize the principles and elements of design, the more it will enhance your appreciation of the world around you.

Proportion - Proportion is the relationship of the size of the parts of a design to one another and to the design as a whole. Generally speaking, proportions that are unequal in size are more interesting than equal.

Balance - Balance is the feeling of stability produced by having both sides of a design in equilibrium. Symmetrical balance is produced when both sides of a design are exactly alike. Asymmetrical balance results when the visual weights are equivalent but not identical so that the design does not appear lopsided. Asymmetrical balance is more difficult to attain but is more interesting, freer and more spontaneous.

Rhythm - Rhythm is created through a repetition of line, shape, color, pattern, and texture. It can lead the eye to a given point. These lines and shapes do not have to be identical, but must be compatible and flow smoothly together from one area to another

Emphasis - Emphasis is given by creating a center of interest that brings into focus the most important part of a design. It can be achieved by making one shape larger than all the rest, or by using strong contrasts of light and shade, color, texture, etc. As an example, if all the shapes in a design were textured except one, the one remaining plain area will stand out from all the rest.

Unity - Unity is the quality of oneness achieved by massing or grouping the various plastic elements in such a way that they make an integrated whole. Each part must enhance the other parts and all work together successfully to create a unified whole.

Variety - Variety is created by making the sizes and shapes, color and textures, different from one another. It adds interest and relieves monotony.

Opposition - Opposition is created by contrasting between the elements, such as light against dark, rough against smooth, vertical against horizontal, or opposing diagonals.

Progression - Progression or Gradation is created by repeating a shape, line, color, pattern or texture in different sizes from large to small or vice versa. It is another kind of rhythm.

Radiation - Radiation is created by having elements originate from a common center extending outward from a central axis. It is another kind of rhythm.