sculpture ˈskəlpˌCHər

noun
the art of making two- or three-dimensional representative or abstract forms, esp. by carving stone or wood or by casting metal or plaster.

Elements of 3-D Design

Space: distance, area, volume; physical space independent of what occupies it; absolute space.

Line: the edge or outline of a form, the meeting of planes; linear materials include: wire, wood, metal rod, string or any materials with a long thin shape.

Plane: a flat or level surface — planar materials include foam core, cardboard, sheet metal, plastic sheets, and plywood.

Mass/Volume: closed, independent, three dimensional form — interpenetrable, completely surrounded by space — volumetric materials include blocks of plaster, wood or stone. Sometimes mass refers to a positive solid and volume refers to a negative, open space surrounded by material, as in a bowl or other vessel.

Shape: positive and negative: positive shape is the totality of the mass lying between its contours; in three-dimensional work, the visible shape or outer limit of a form changes as the viewer's position is changed. These outer limits are seen as shapes moving back and forth between major contours. Negative space is empty space defined by positive shape. Sometimes referred to as occupied and unoccupied space.

Value: light and shadows on the surface of forms; quantity of light actually reflected by an object's surface; value changes might be affected by the addition of color to the surface of a work.

Texture: the surface quality of a form — rough, smooth, weathered and so on.

Color: in 3D design, the actual color of the material being used.
Principles of 3-D Design

Harmony: resolution of forces in opposition. Everything is working in harmony.

Contrast/ Variety: different qualities or characteristics in a form; interest generated in a work by using a variety of shapes, forms, textures and so on.

Rhythm/ Repetition: rhythm is the result of repetition; three rhythmic devices include:
1) the duplication of the same form
2) two forms used alternately; and
3) the sequential change of a form (large to small, for example.)

Emphasis: something in the work must dominate. A high point or climax occurring in the work, or the domination of a motif or design element.

Continuity: organized movement or rhythm (repetition, alteration and progression).

Balance: ordered relationship of parts. whether symmetrical or asymmetrical; equilibrium.

Symmetrical Balance: equal visual units right and left/top to bottom of an imaginary center point.

Asymmetrical Balance: visual balance achieved by dissimilar visual units; for example, two or three small shapes on the right balancing one larger shape on the left.

Proportion: elements compared, one to another, in terms of their properties of size, quantity, and degree of emphasis.

Methods For Creating Three-Dimensional Forms

The four basic methods for creating three dimensional forms are as follows:

Subtraction: the old cliché of the sculptor seeing his "ideal form" within a rock (or other mass of material) and carving or chipping away at the excess until he finds it, or "frees" it.

Manipulation: modeling malleable materials such as clay.

Addition: a sculptural method in which form is created by building up materials. This method encompasses many contemporary materials and techniques, such as the assemblage of objects from wood, metal, plastics, adhesives, fasteners, etc. Objects which use techniques derived from the world of furniture construction and carpentry are included in this category, as are objects welded or riveted together, or made from found materials.

Substitution: the creation of a duplicate of an object (either found or made) by making a mold of that object and casting another material into the mold to make the replica.
Vocabulary Commonly Used When Describing 3-D Design

Abstract: (verb) to simplify, emphasize or distort qualities of a real-life image.

Assemblage: a work generated from a variety of objects and/or forms originally intended for other purposes.

Axis: a line, real or imagined, around which the material that composes an object appears to be organized.

Composition: an ordered relationship among parts or elements of a design.

Contour: the outline of an object

Craftsmanship: aptitude, skill, or quality workmanship in use of tools and materials.

Dominant: refers to elements in a composition; the dominant volume is the largest element in a group, the most interesting and dramatic in character.

Elegant: with respect to design (or mathematics): ingeniously simple and effective, free of extraneous detail.

Fabrication: the action or process of manufacturing or constructing something.

Form: The organization or arrangement of all the visual elements which develop a unity in the total work of art; the totality of a work of art.

Geometric: mechanical, human-made shapes (square, circle, triangle,) with regular edges.

Juxtaposition: placement side by side; relationship of two or more elements in a composition.

Kinetic: construction that contains moving elements set in motion by air, motors or gravity.

Linear: involving or consisting of lines, looking like a line, narrow and elongated.

Malleable, malleability: the capability of being molded, taking shape or being made to receive desired form.

Maquette: a small, scale model for a work intended to be enlarged.

Organic: free forms representing living things that have irregular edges. Also, biomorphic.

Perforated: pierced with a hole or holes (like Swiss cheese, for example.)

Radial: compositions that have the major images or design parts emanating from a central location.

Relief: sculpture in which forms project from a background, usually mounted on a wall. It is classified according to the degree to which it is raised from the surface: high relief, forms moving out from the surface; low relief, forms remaining close to the surface.

Scale: the relationship between the size of an object and the size of its surroundings.

Symbol: something used for or regarded as representing something else, as in signs, emblems or tokens.

Tactile: perceptible to touch; that which is tangible.

Three-dimensional: having height, width, and depth; a thing existing in space

Void: a hollow, concavity, or unoccupied space within a solid object or mass.