

Design

The word '**design**' as defined in the Longman Dictionary of Contemporary English (1987) has the following meanings. As a noun, it means:

- A drawing or pattern showing how something is to be made;
- The art of making such drawings or patterns;
- The arrangement of parts in any man-made product, such as a machine or work of art, as this influences the product's practical usefulness;
- A decorative pattern, esp. one that is not repeated;
- A plan in the mind.
- The word design is also used as a verb with the following meanings. To make a drawing or pattern of something that will be made or built for a certain purpose or use.

Design

Visual Design Elements

color

line

shape



value or tone

texture



volume or form



7 integral components used in the creation of a design: Known as elements of art

0) Point

1) Line

2) Color

3) Form

4) Shape

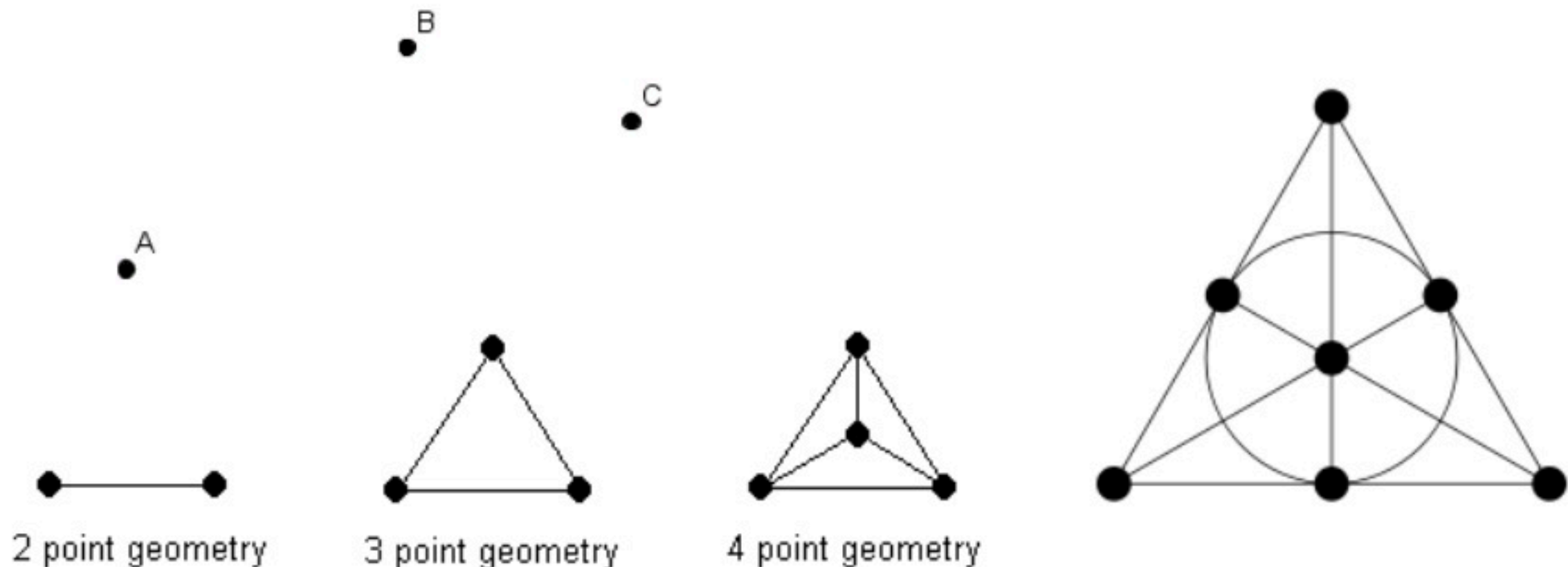
5) Space

6) Texture

7) Value

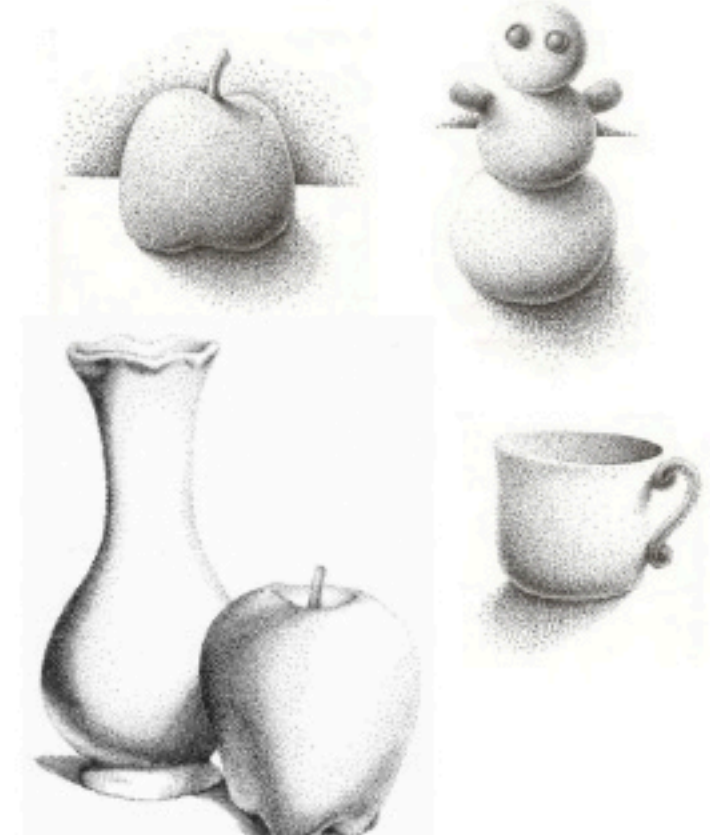
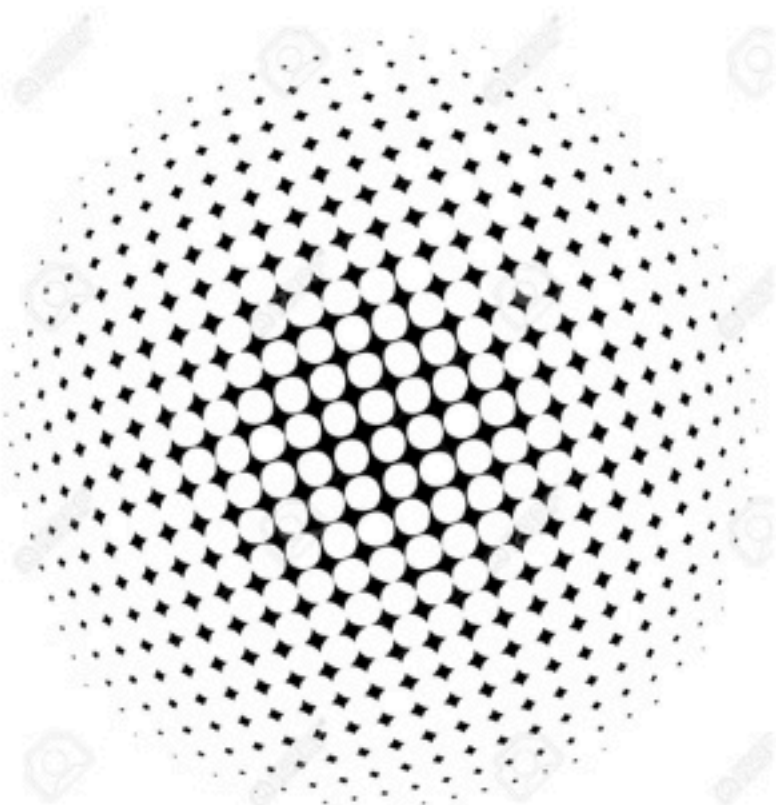
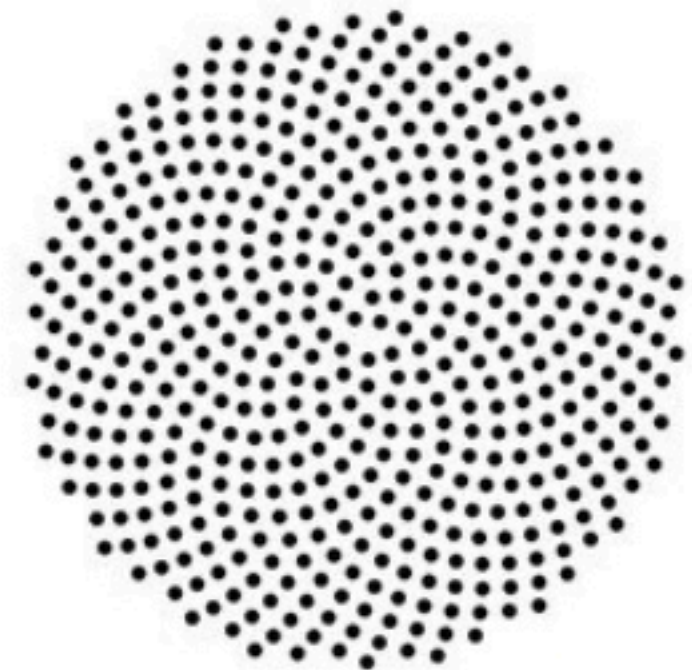
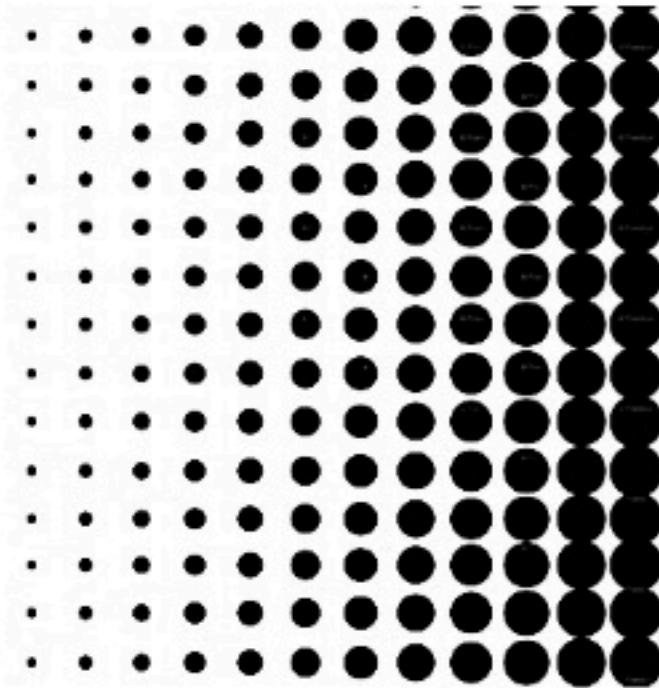
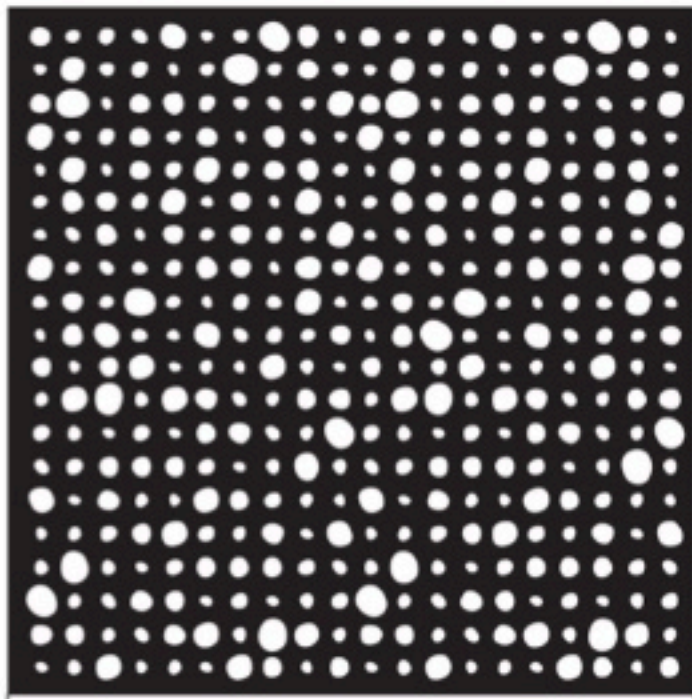
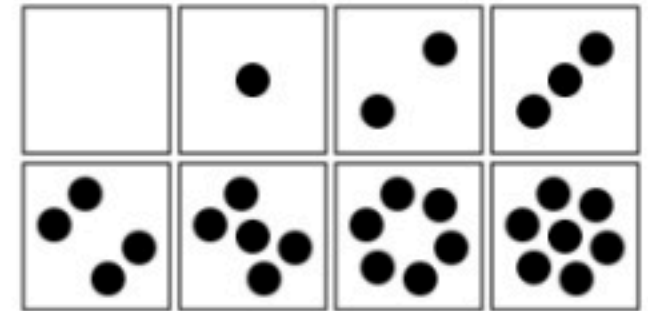
Design

Point - point in geometry is a location. It has no size i.e. no width, no length and no depth. A **point** is shown by a dot. A line is defined as a line of **points** that extends infinitely in two directions. It has one dimension, length.



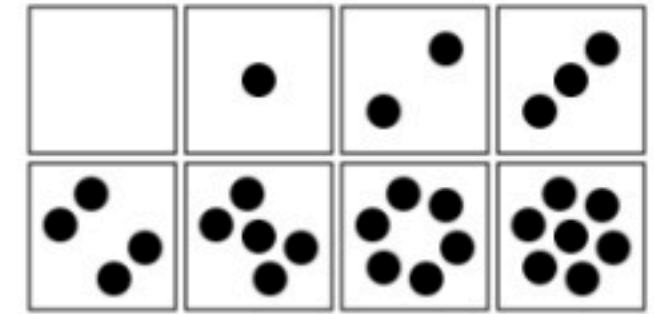
Design

Patterns and illustration using
points & dots



Design

Architectural use of
points & dots



ASSIGNMENT

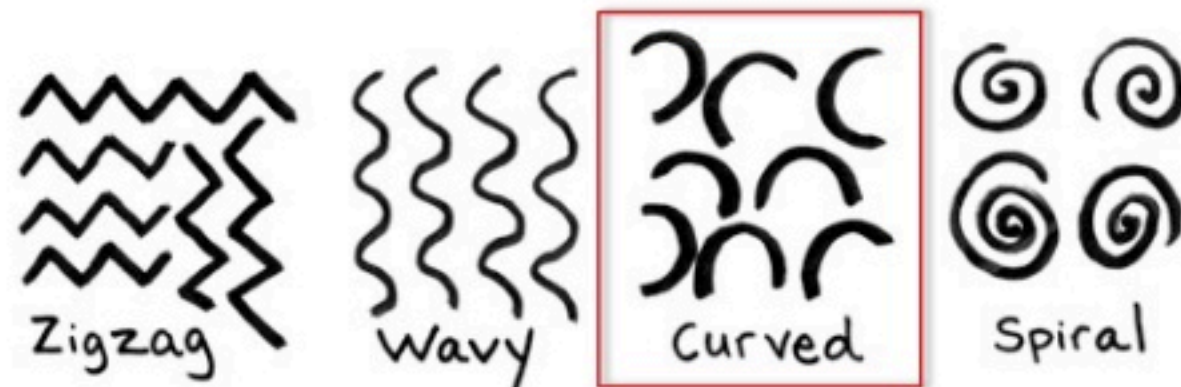
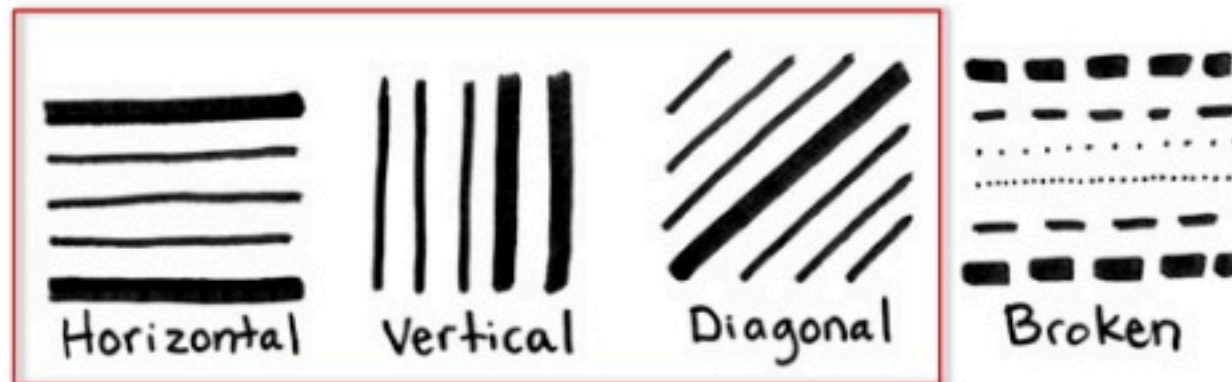


Make Different Pattern using
Points and Dots



Design

Line - is a mark on a surface that describes a shape or outline. It can create texture and can be thick and thin.



Types

Vertical – Represents dignity, formality, stability, and strength

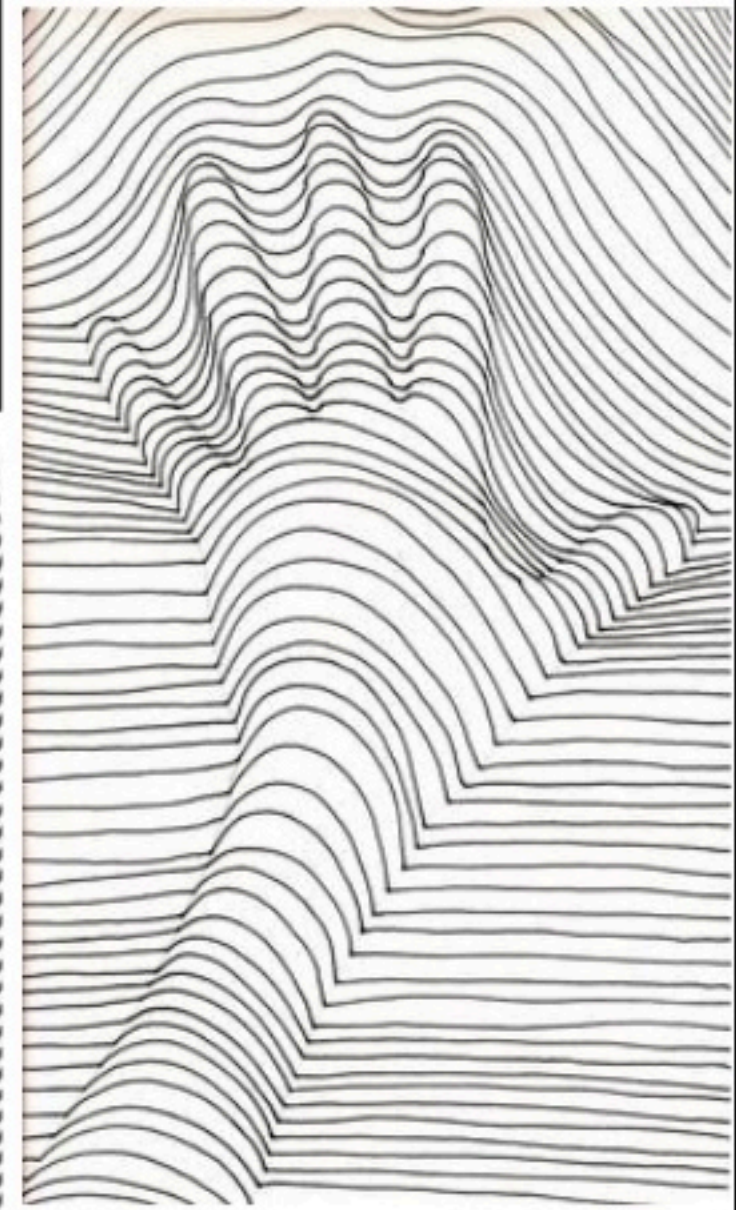
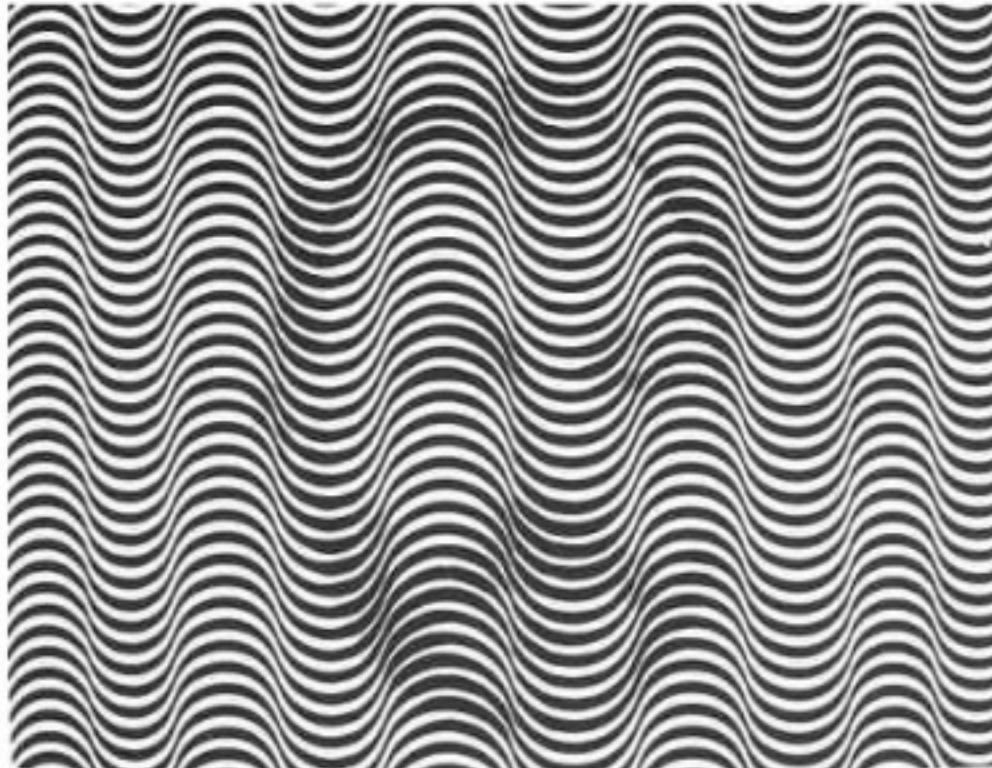
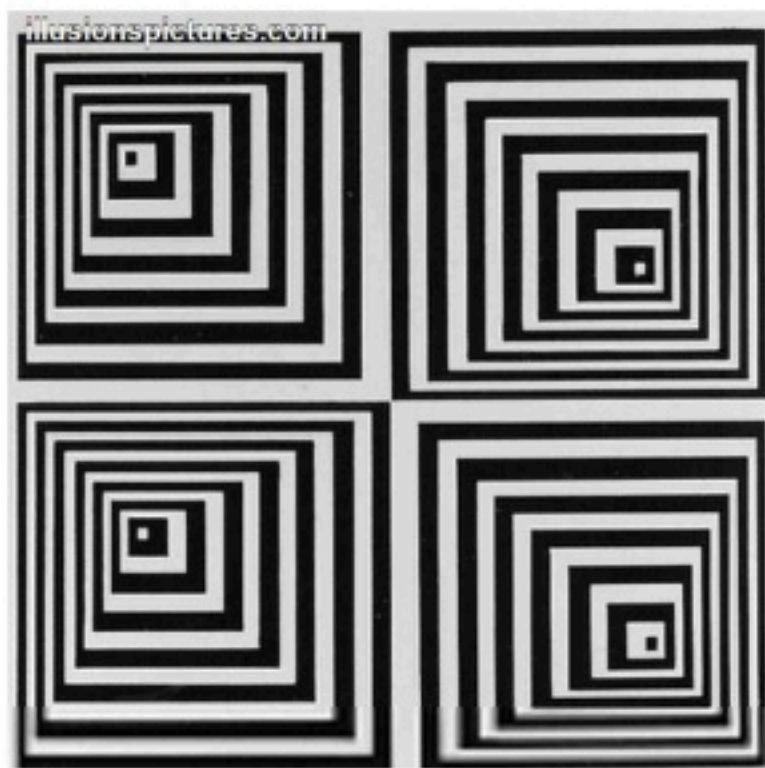
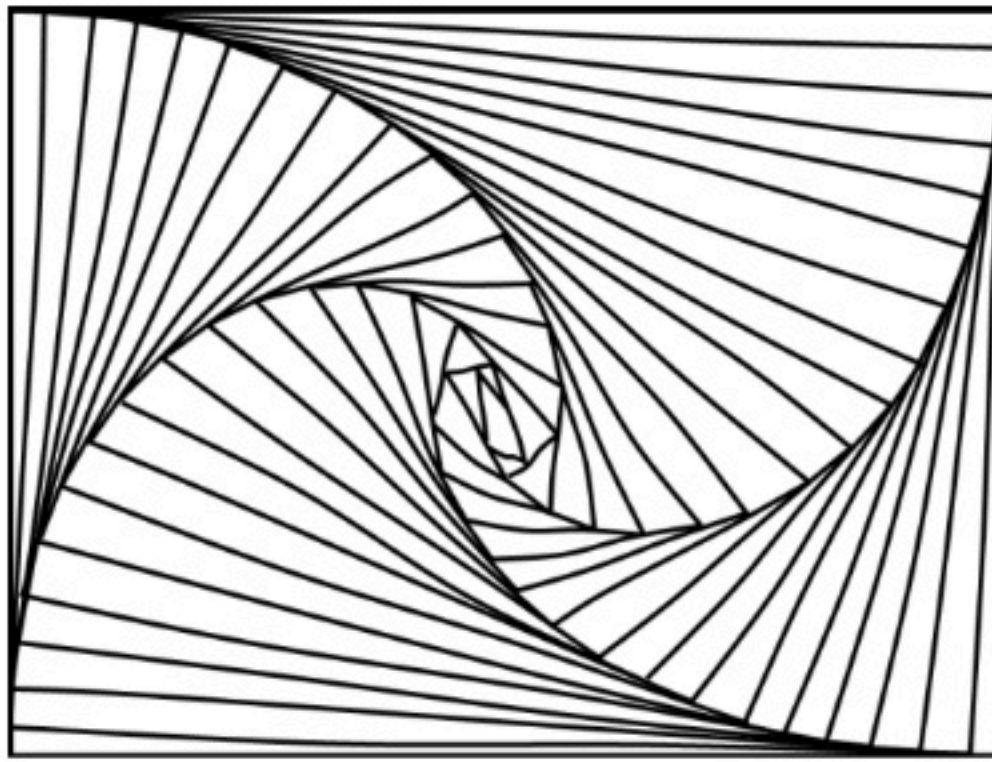
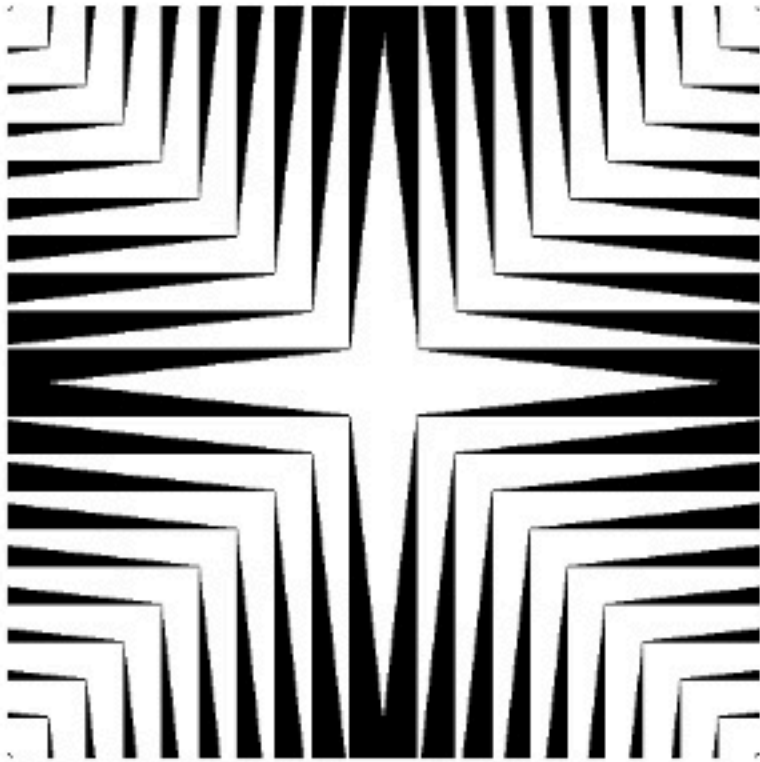
Horizontal – Represents calm, peace, and relaxation

Diagonal – Represents action, activity, excitement, and movement

Curved – Represents freedom, the natural, having the appearance of softness, and creates a soothing feeling or mood

Design

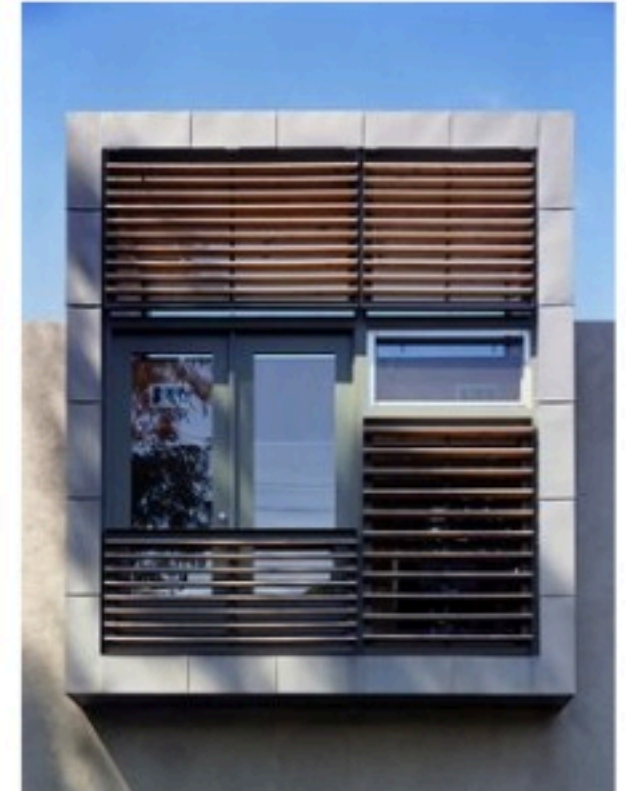
Patterns and illustration using lines



Design

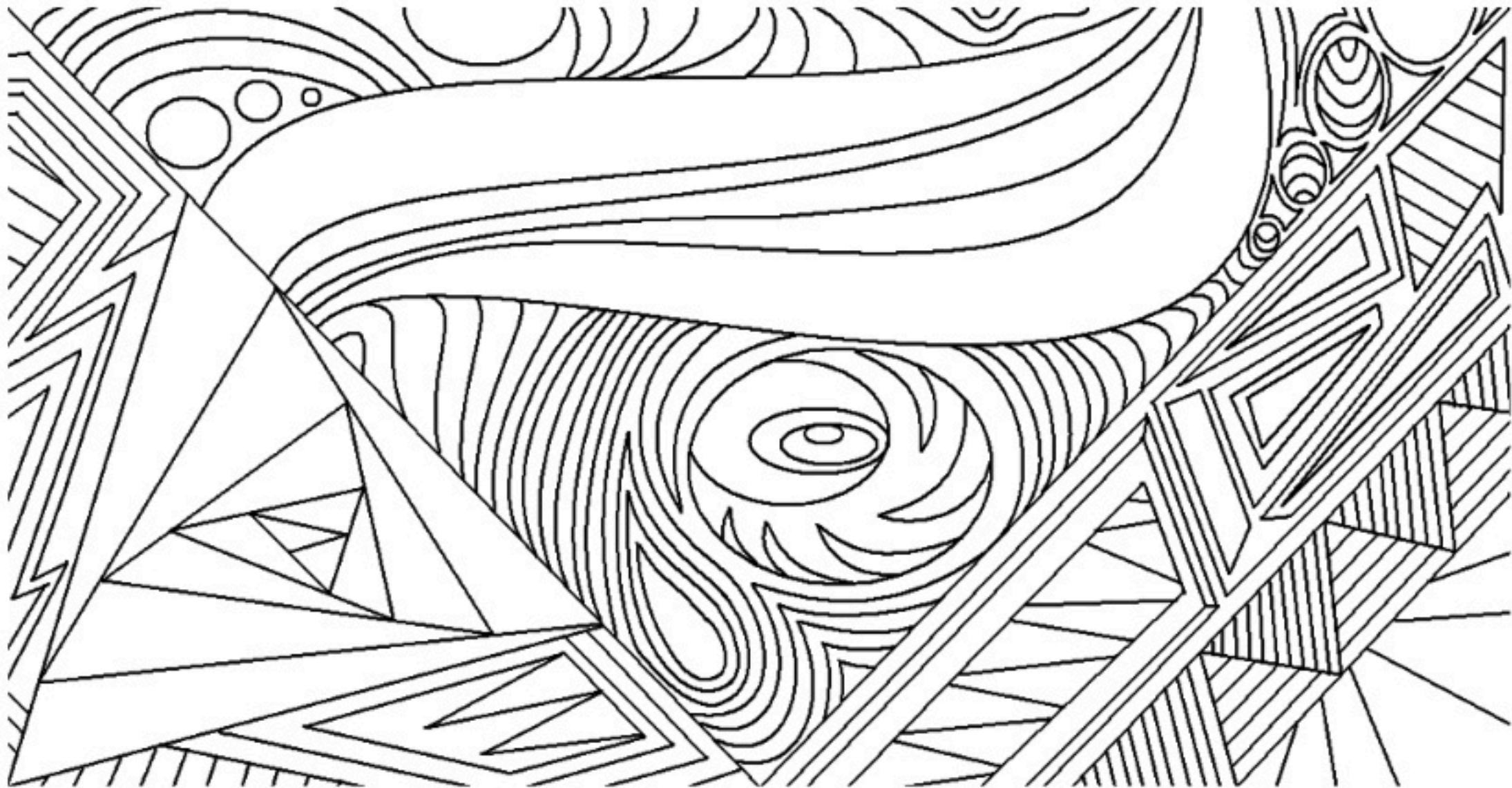
Use of Lines in Architecture

HORIZONTAL LINES



ASSIGNMENT

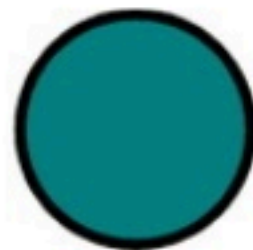
Make Different Pattern using
Different lines



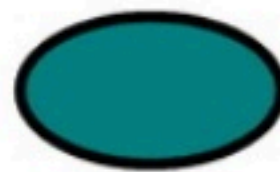
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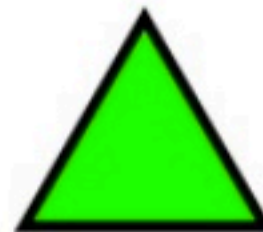
Shape Or Plane: (2D) The two-dimensional contour that characterizes an object or area. It has only length and breadth.



circle



oval



triangle



square



trapezium



diamond



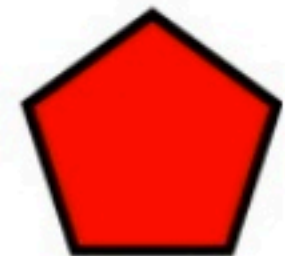
rhombus



parallelogram



rectangle



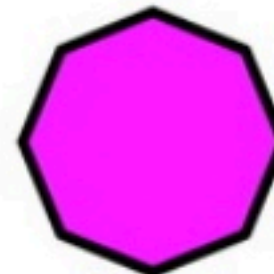
pentagon



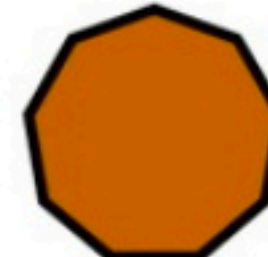
hexagon



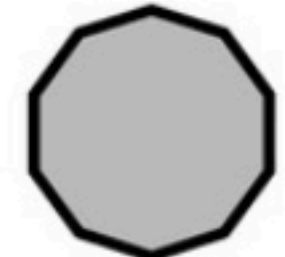
heptagon



octagon



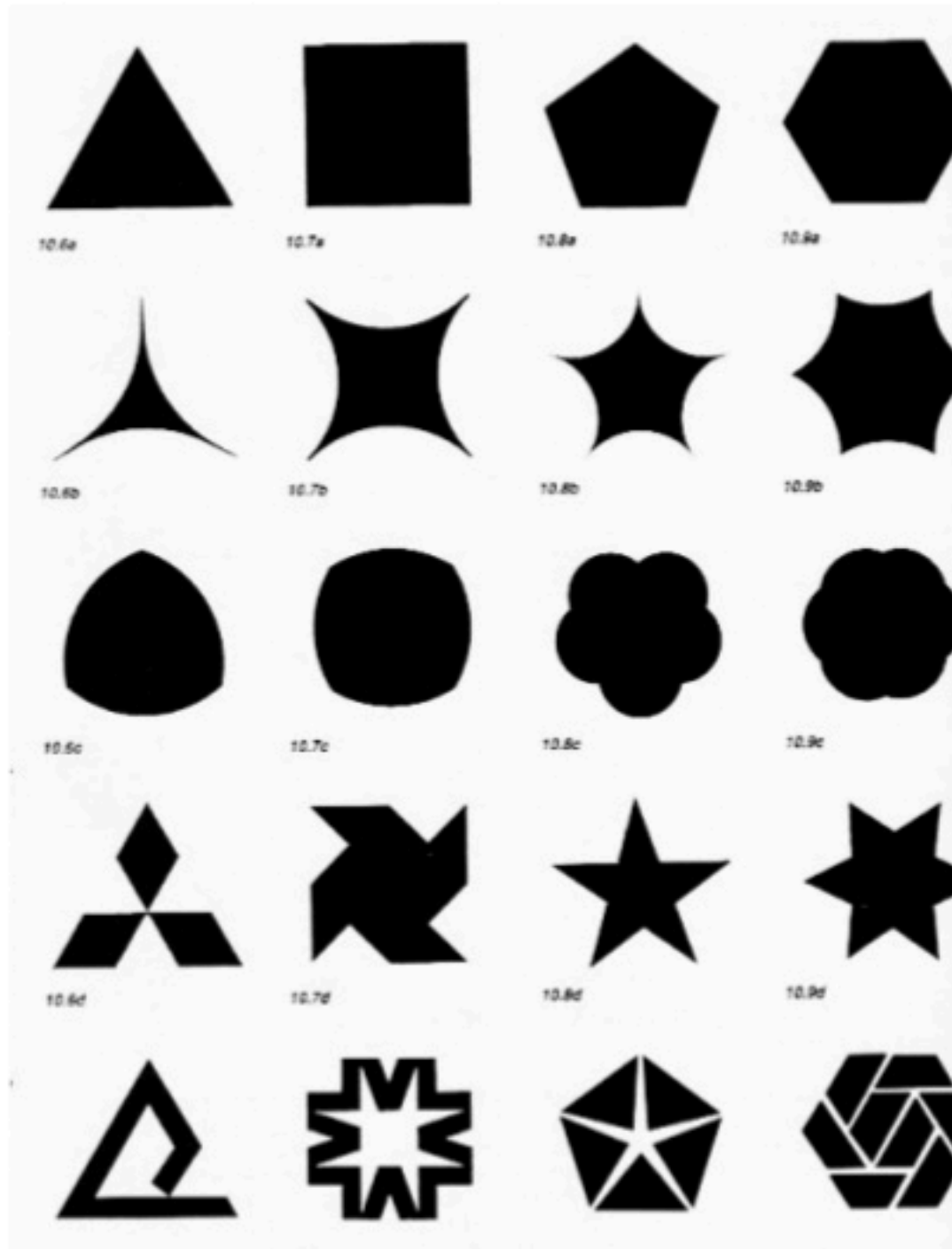
nonagon



decagon

Geometrical shapes

Design



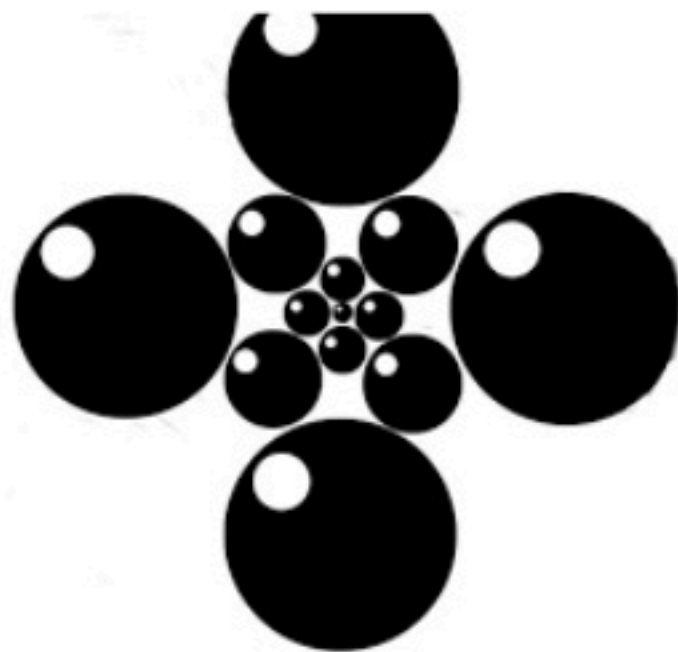
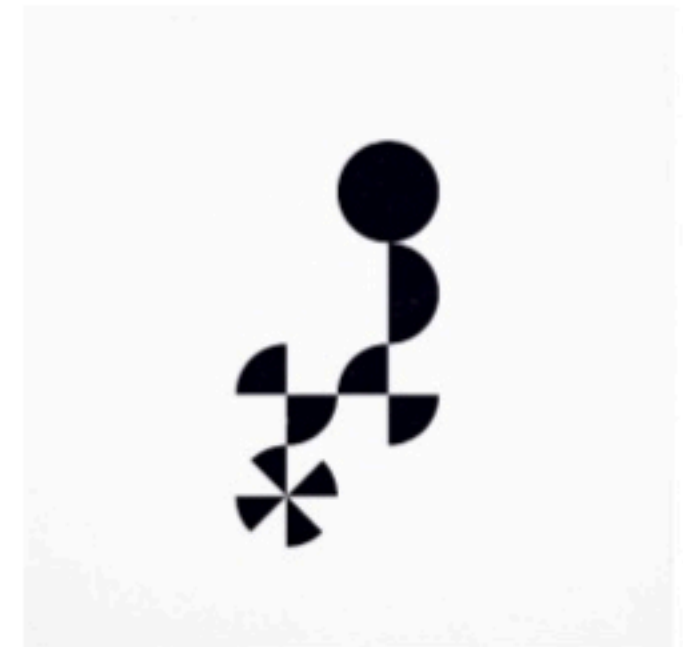
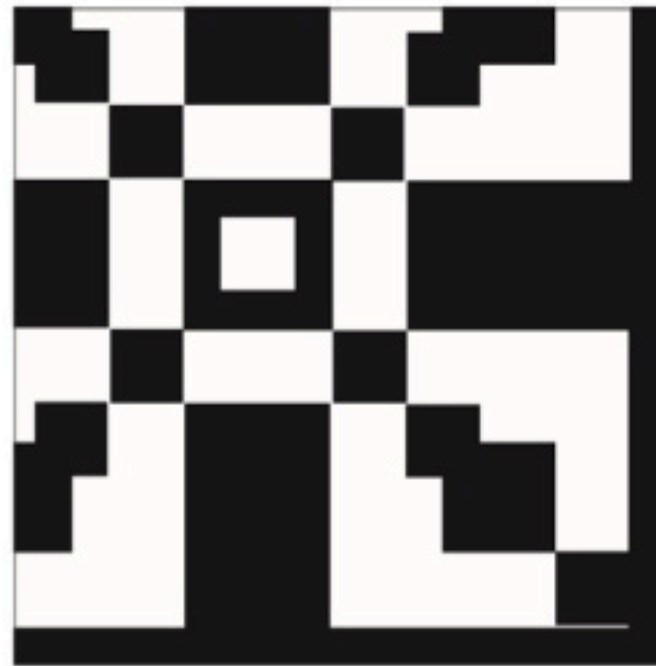
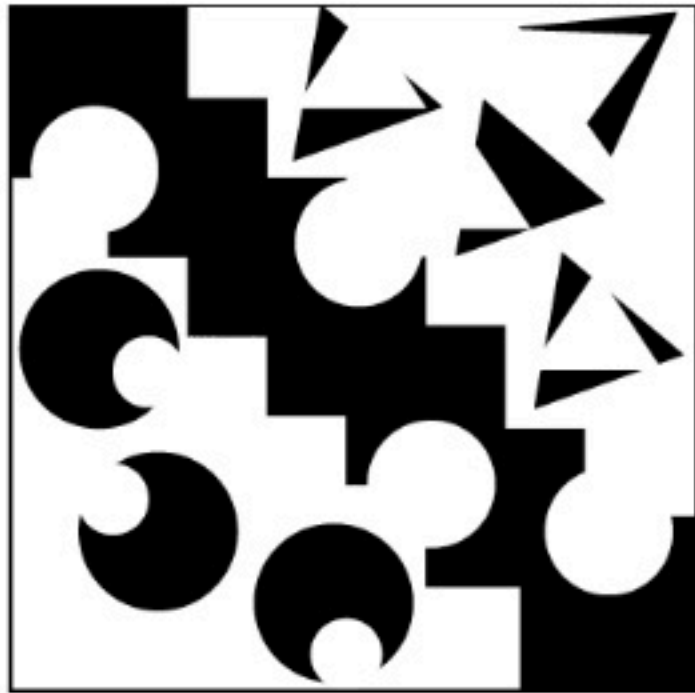
Blend shapes



**Organic / Free form /
Biomorphic shapes**

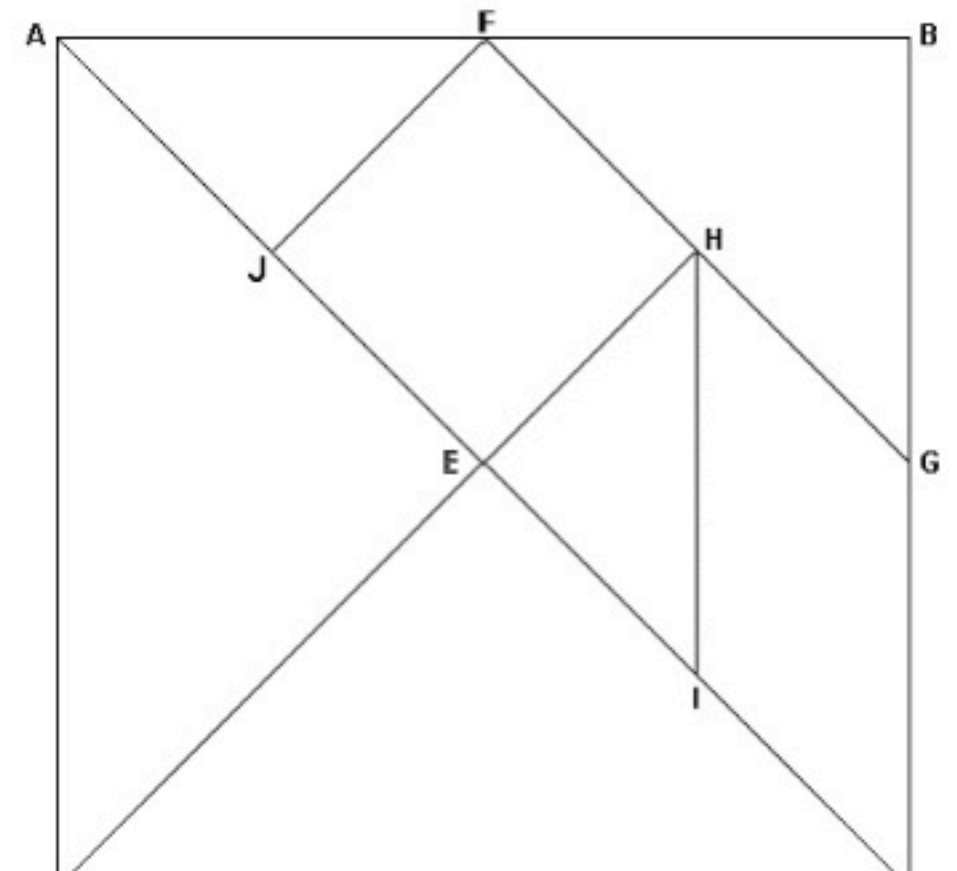
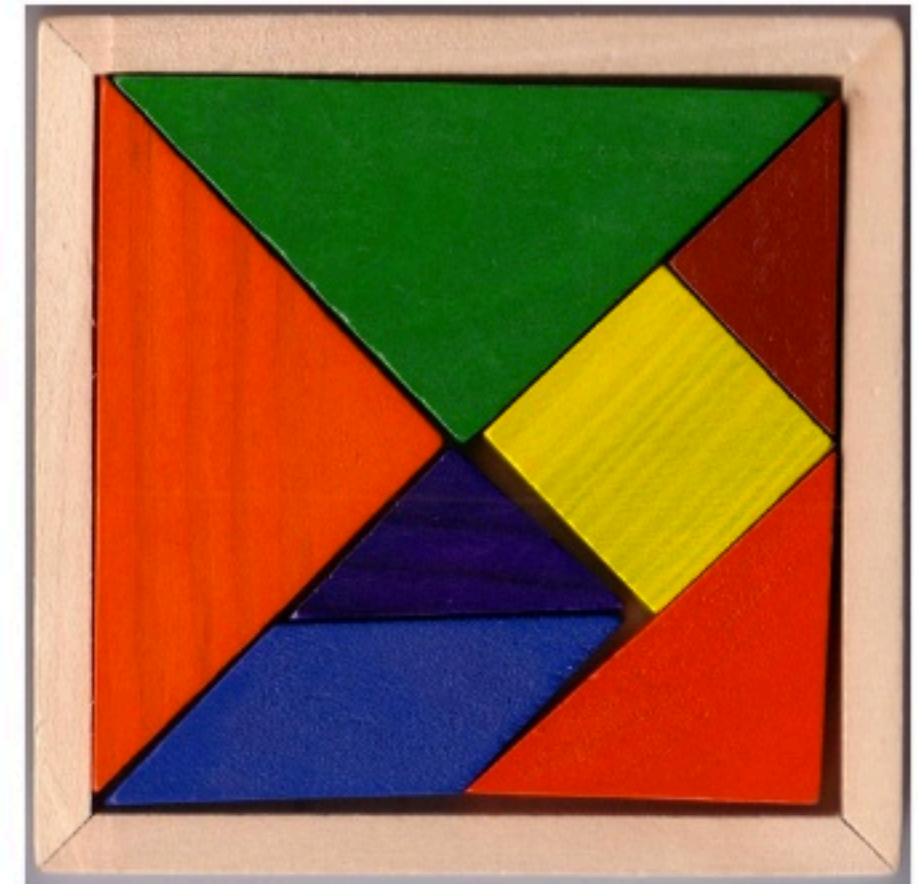
Design

Simple Composition of shapes



Design

The **tangram** (Chinese : "seven boards of skill") is a dissection puzzle consisting of seven flat shapes, called *tans*, which are put together to form shapes. The objective of the puzzle is to form a specific shape (given only an outline or silhouette) using all seven pieces, which may not overlap. It is reputed to have been invented in China during the Song Dynasty, and then carried over to Europe by trading ships in the early 19th century. It became very popular in Europe for a time then, and then again during World War I. It is one of the most popular dissection puzzles in the world. A Chinese psychologist has termed the tangram "the earliest psychological test in the world", albeit one made for entertainment rather than analysis.



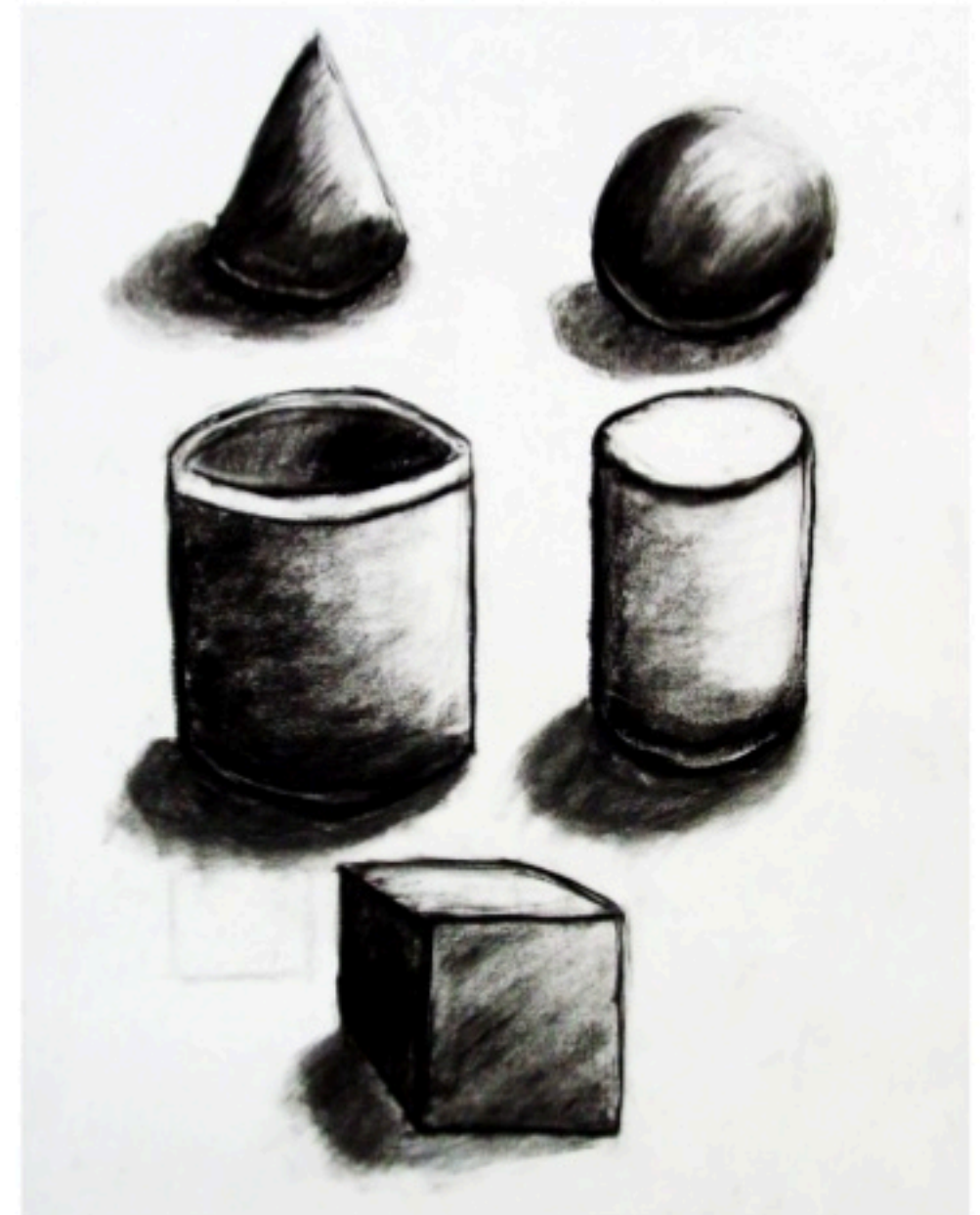
Design

Form



Form: The shape and structure of something as distinguished from its substance or material.

Form is an element of art that is three-dimensional and encloses volume. it includes height, width and depth (as in a cube, a sphere, a pyramid, or a cylinder). Form may also be free flowing. It is the illusion of a 3-D effect that can be implied with the use of light and shading techniques. Form can be viewed from many angles.

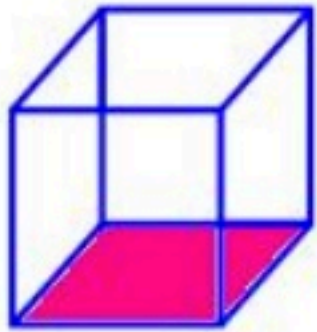


Design

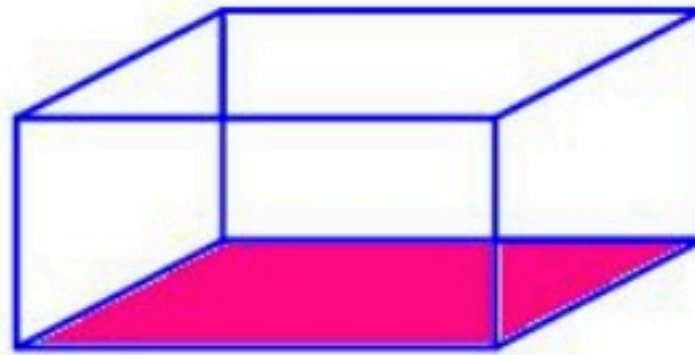
Form



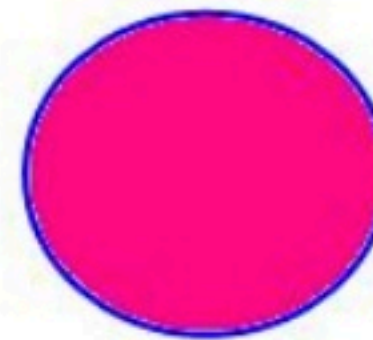
Geometric Shapes & Forms



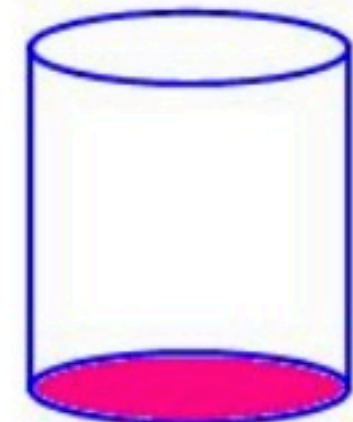
CUBE



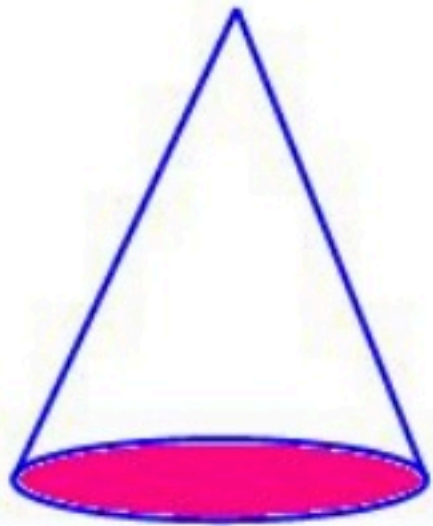
CUBOID



SPHERE



CYLINDER



CONE



PRISM



PYRAMID



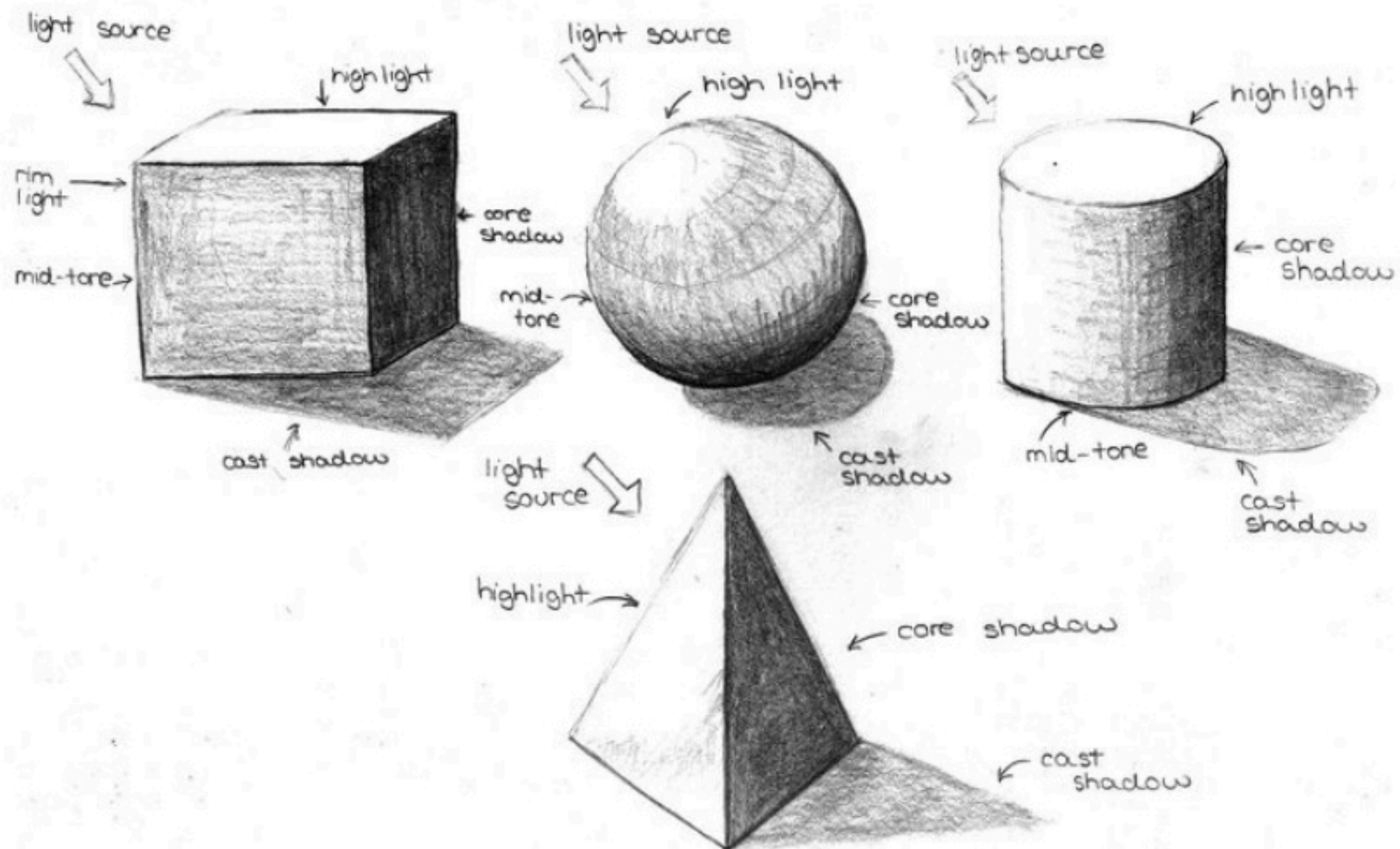
FRUSTUM

Design

Form



Visual Forms Characteristics



Design

Forms Follows Function

Form



Form ever follows function.

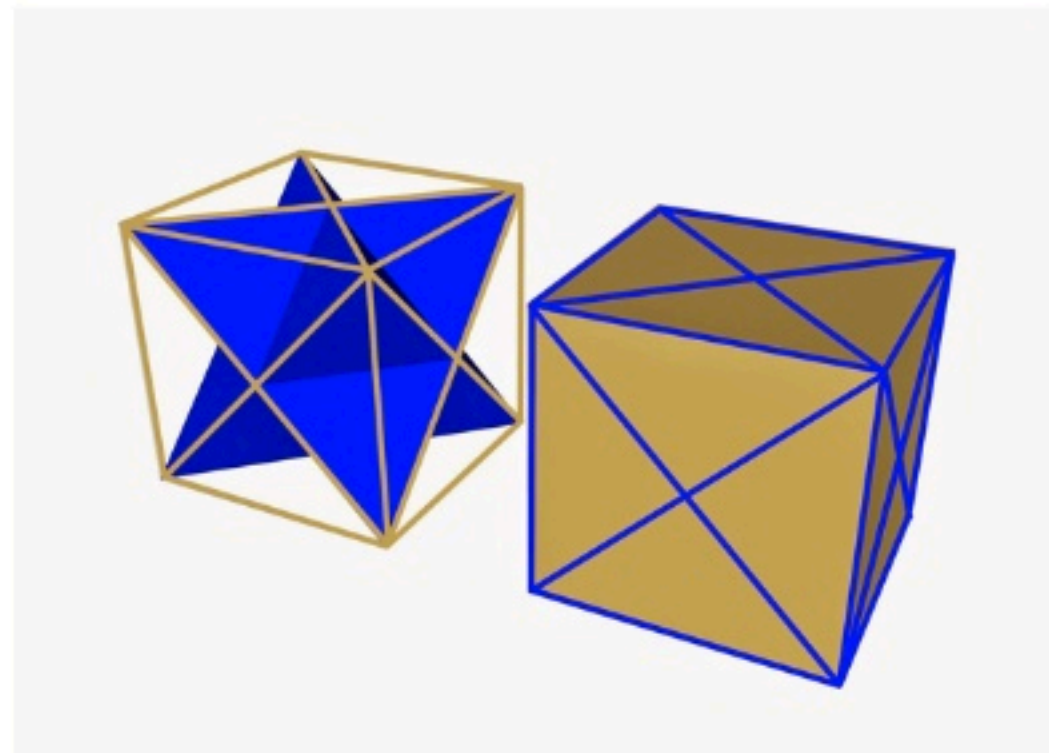
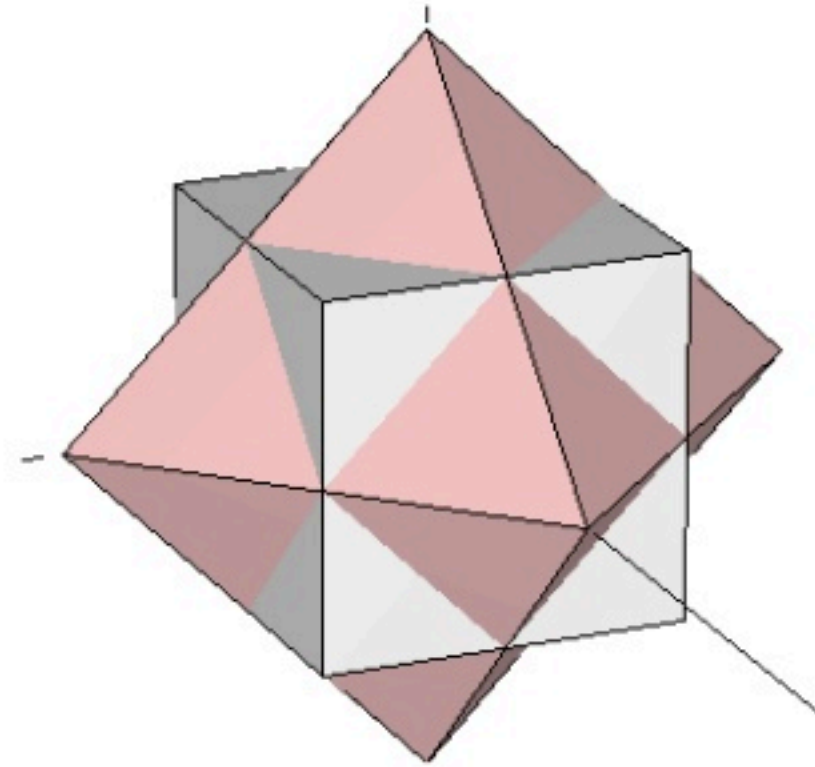
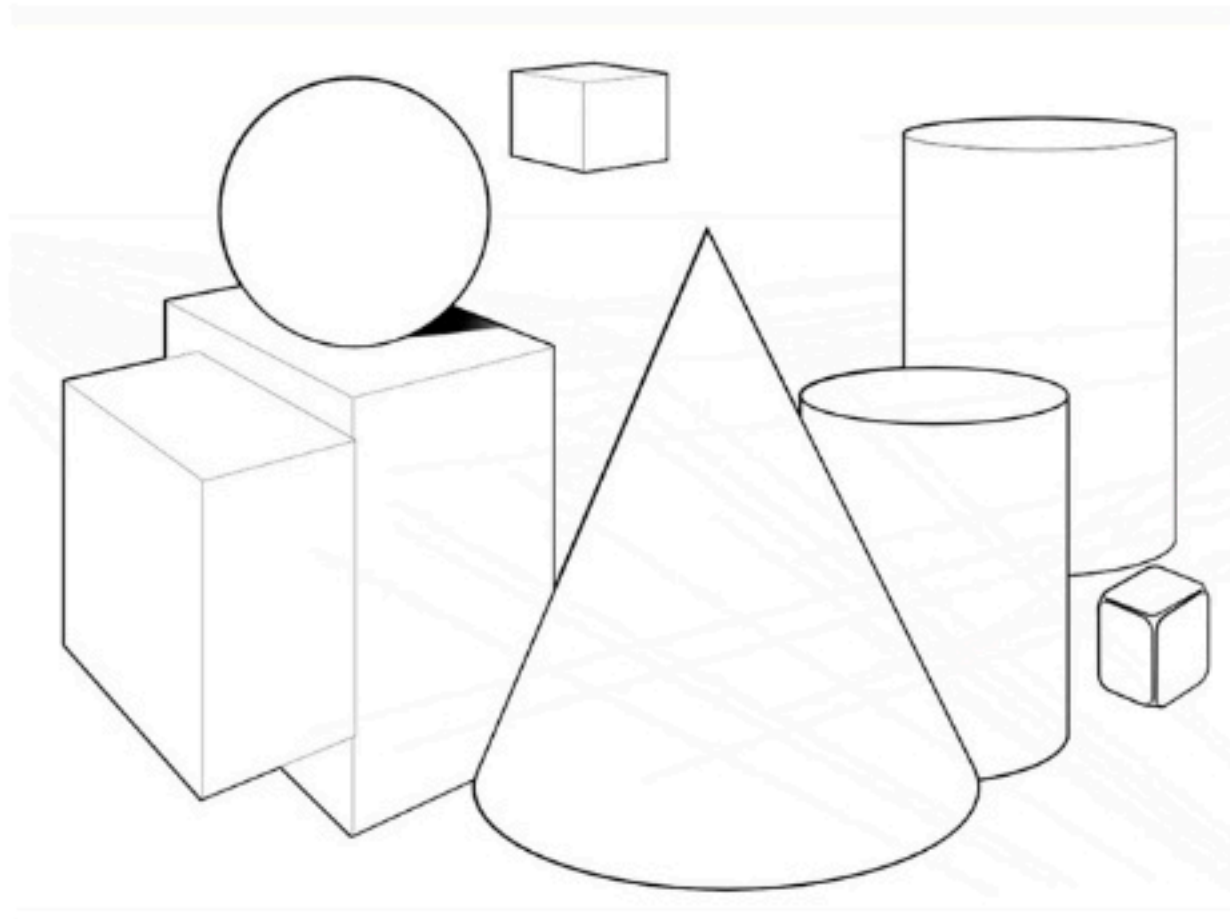
— *Louis Sullivan* —

Form follows function is a principle associated with modernist architecture and industrial design in the 20th century. The principle is that the shape of a building or object should be primarily based upon its intended function or purpose.

Design

Composite Forms

Form



Design

Forms in Architecture

Form

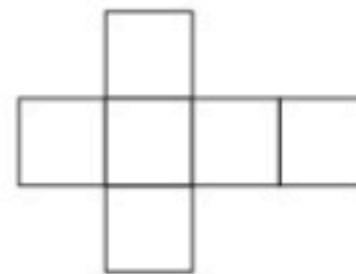
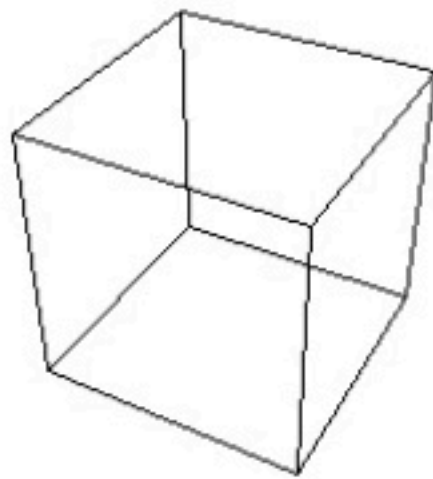
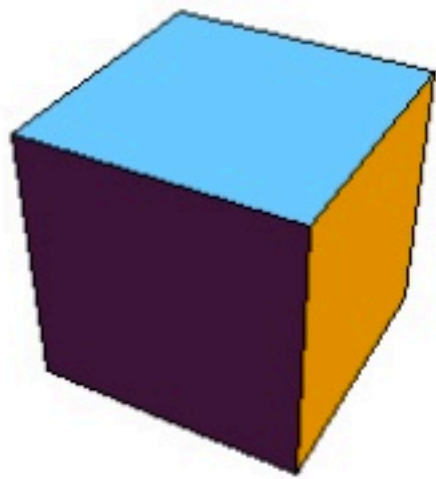


Design

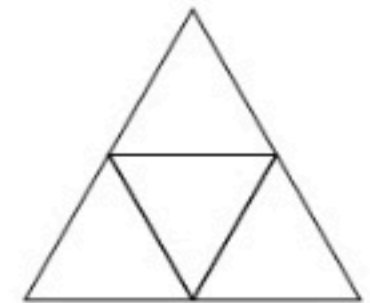
Form



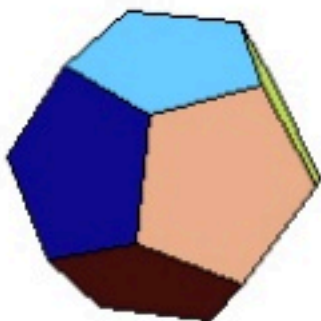
Simple Form Formation & Composition Assignment



Tetrahedron



Dodecahedron



Design

Space



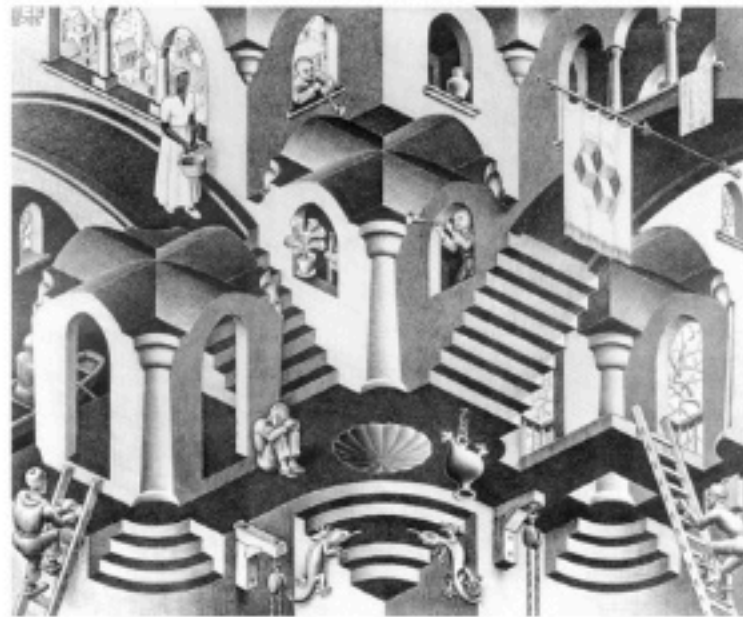
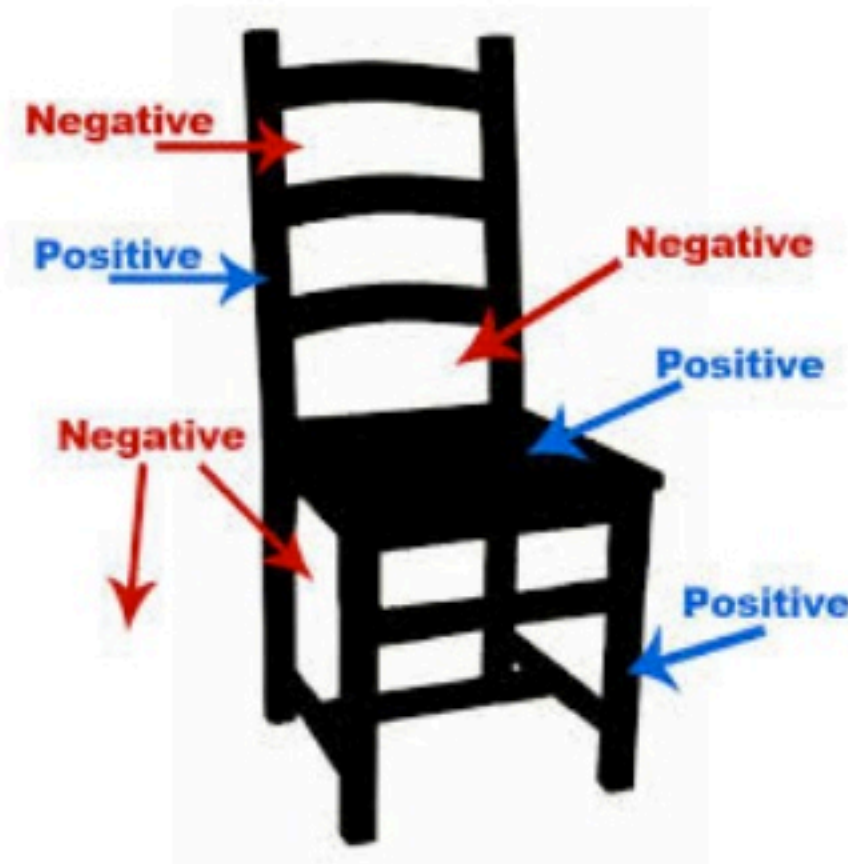
Space can be either full or empty A void is an empty volume, while a mass is a filled volume. Voids and masses can be

Referred to as:

Negative space / Positive space

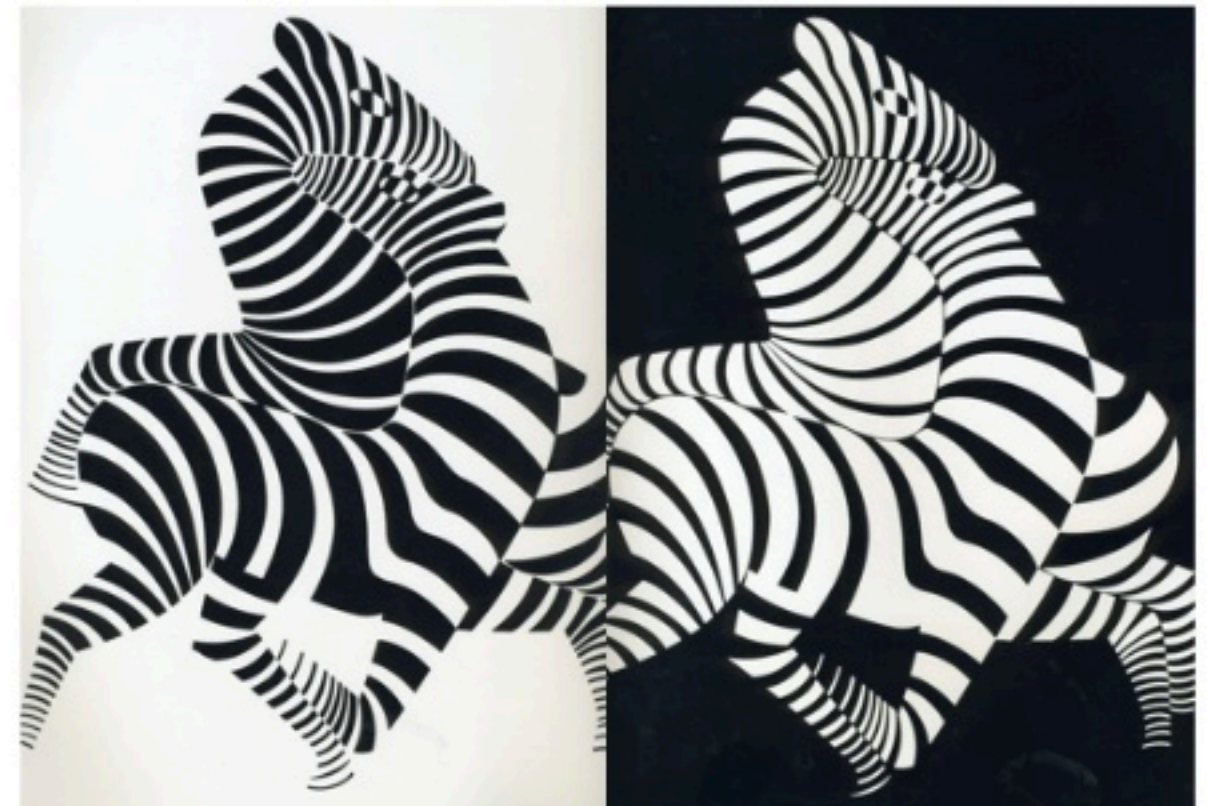
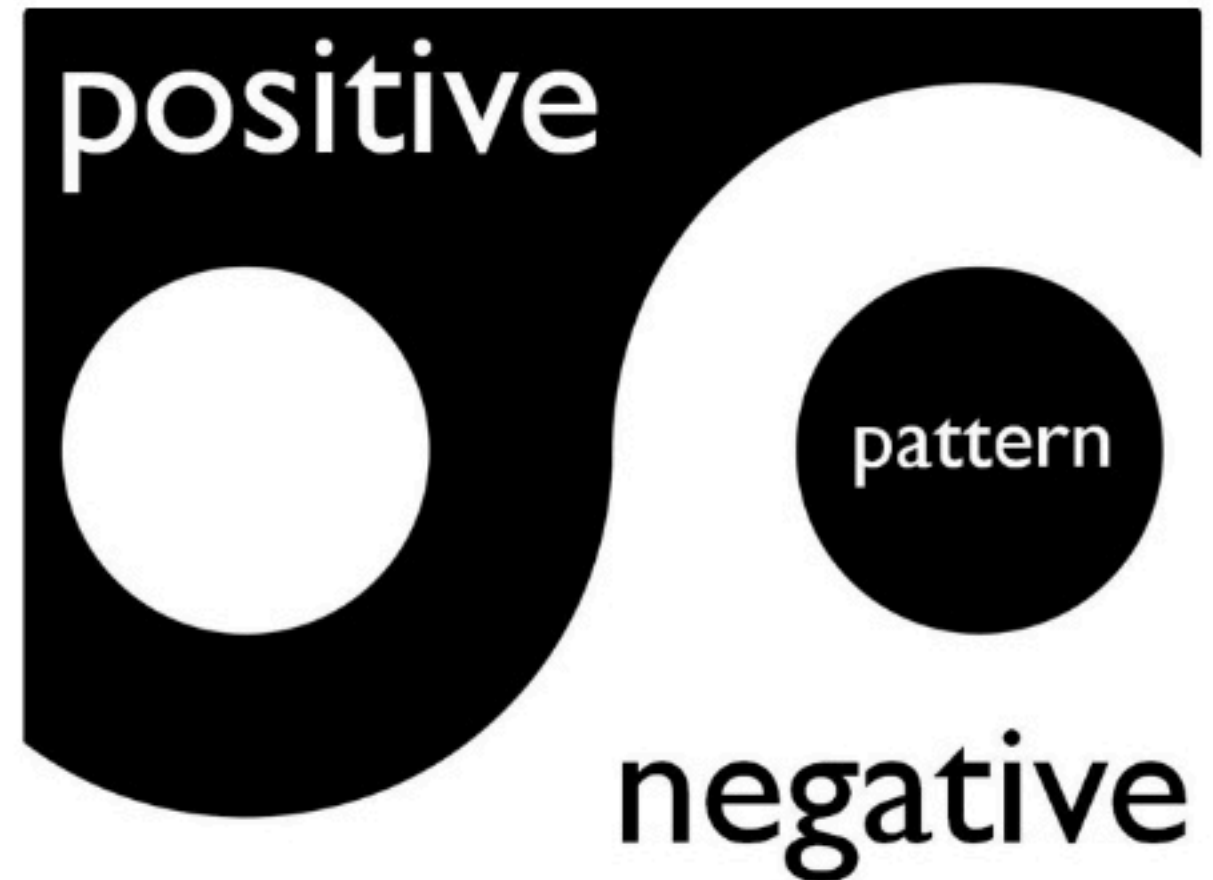
Negative form / Positive form

Volume / Solid or Space / Void



Design

Positive shapes occupy positive space. The area around positive shapes, the background, is negative space. A solid piece of pattern occupies space, and makes the space around it come to life. In fact, the patterns think of the entire composition, the interplay between solid and space, when they create a work of art. In this diagram, the negative shapes are as clear and distinct as the positive shapes.



Design

TEXTURE



Texture - is about surface quality either **tactile** or **visual**. Texture can be real or implied by different uses of media. It is the degree of roughness or smoothness in objects.

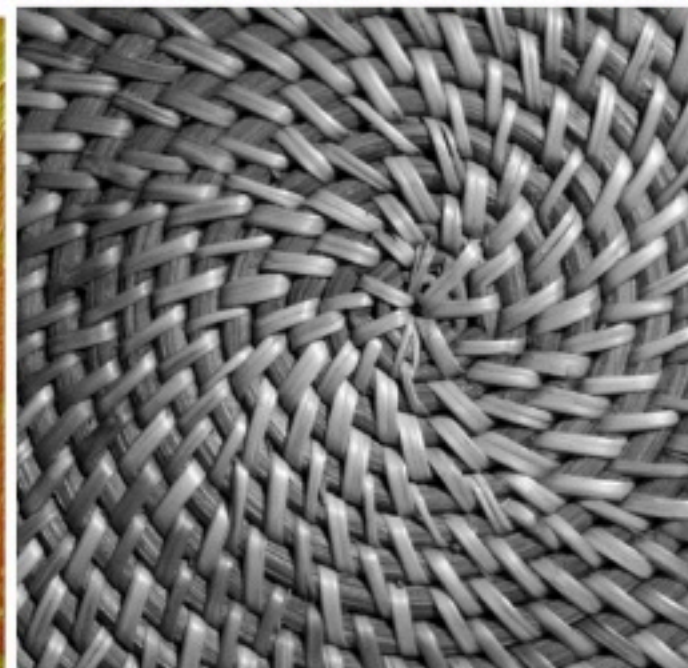
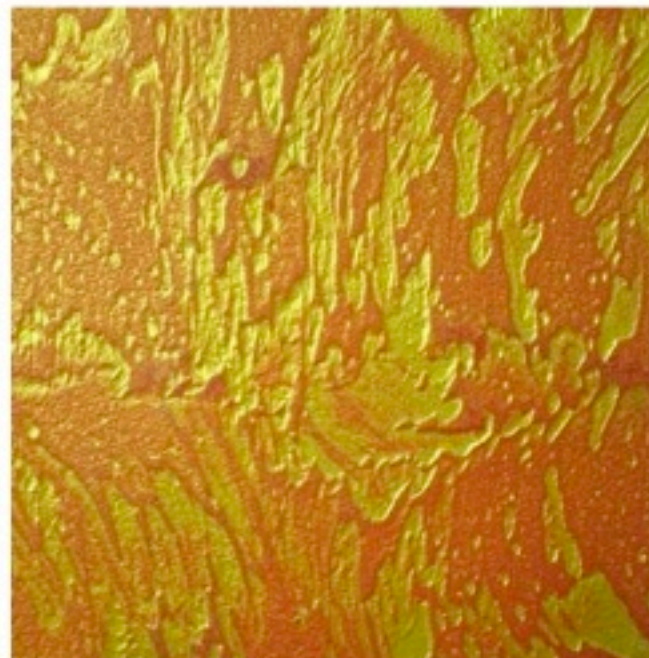


Design

TEXTURE

Types of textures

Tactile texture is the tactile quality of a surface, such as rough, smooth, sticky, fuzzy, soft or slick. A real texture is one you can actually feel with your hand, such as a piece of sandpaper, a wet glass, or animal fur.

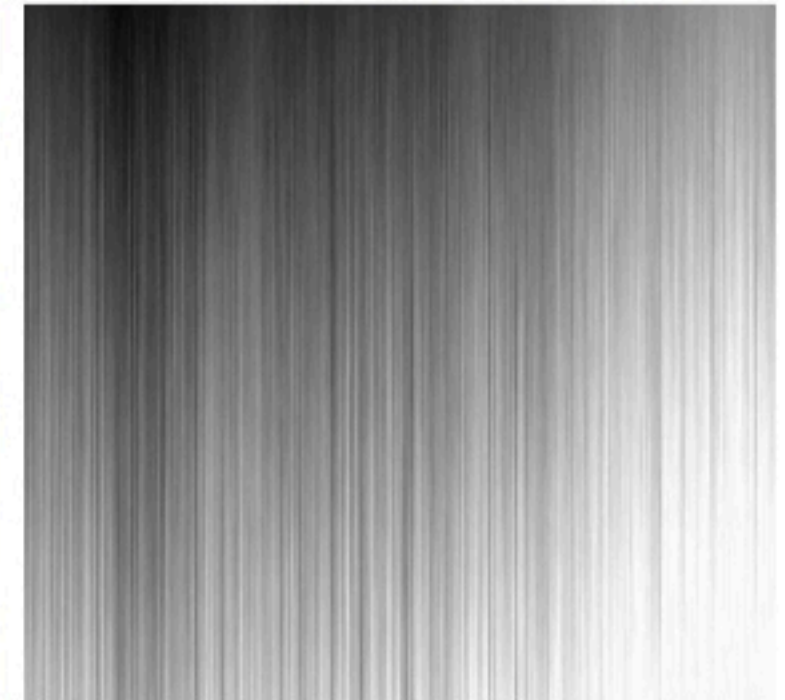


Design

Types of textures

Visual texture is a visual quality of a surface. It is the result from painting or drawing as the real texture. Visual texture is an **illusion** of texture created by an artist. Paint can be manipulated to give the impression of texture, while the paper surface remains smooth and flat.

TEXTURE



Design

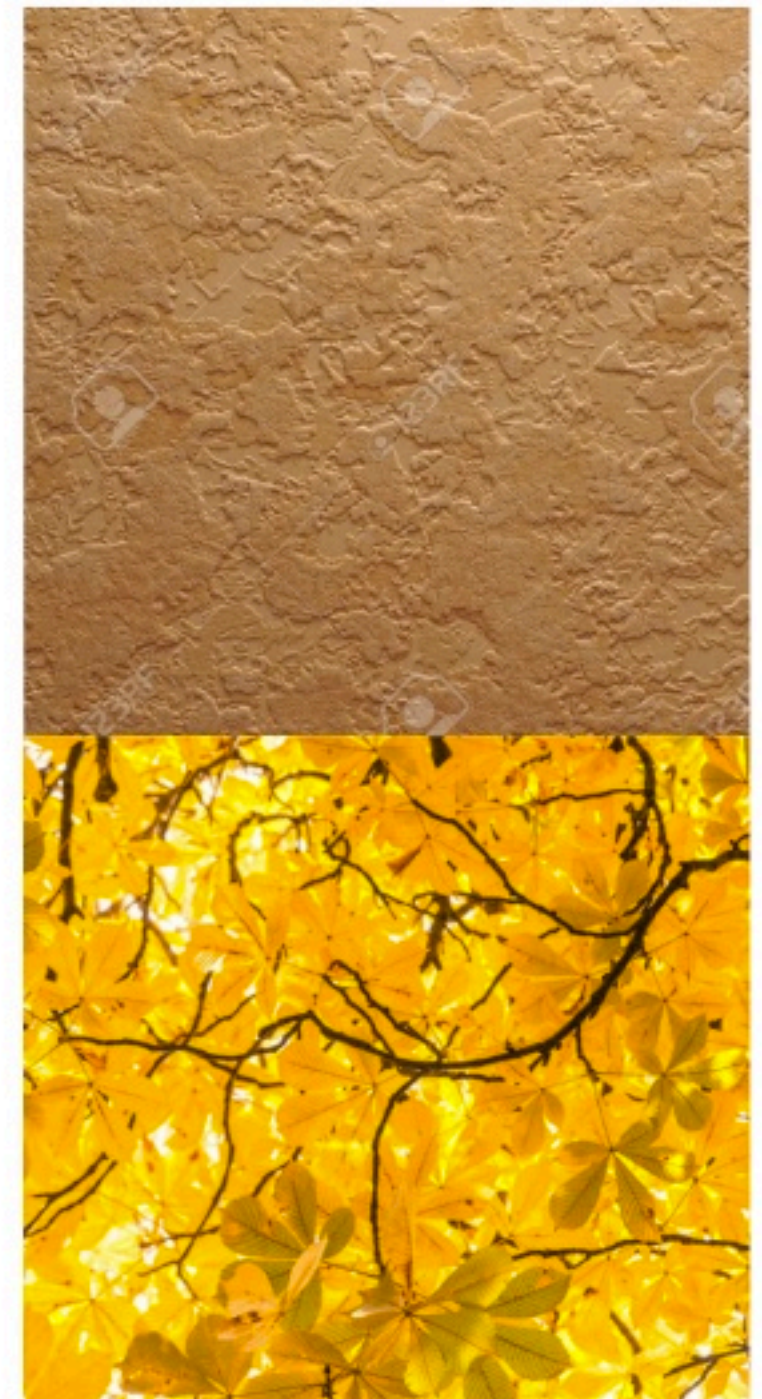
Homogeneity & Heterogeneity in texture

Textures are formed by repeating the entity or elements of design in different scales, density, colour or pattern.

When the entities or elements are repeated throughout the surface in an uniform scale or pattern then the texture is called a **Homogeneous Texture**. Similarly when the scale, colour, density or pattern differs distinctly through out the surface then it is called **Heterogeneous Texture**.

Interesting designs can be formed by blending Homogeneous Textures & Heterogeneous Textures.

TEXTURE

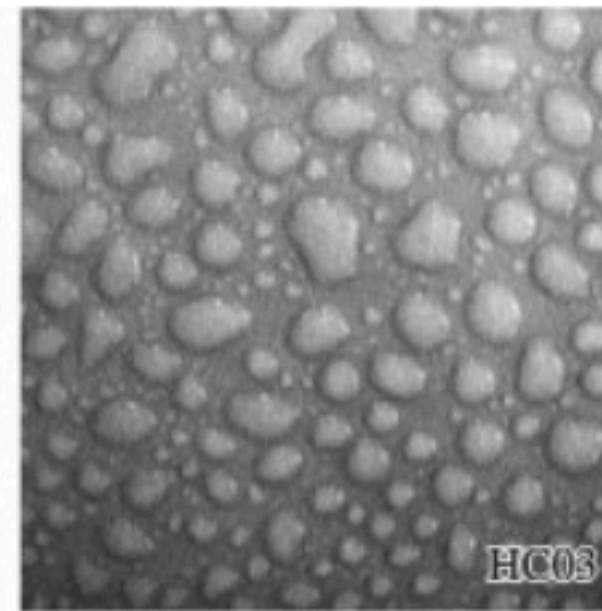
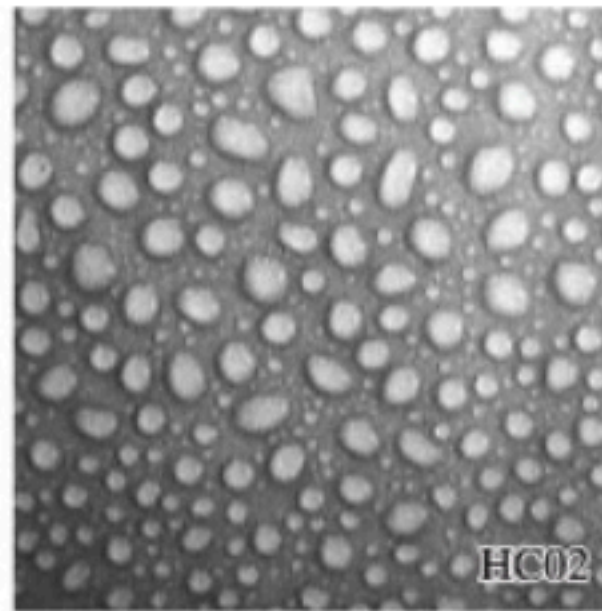
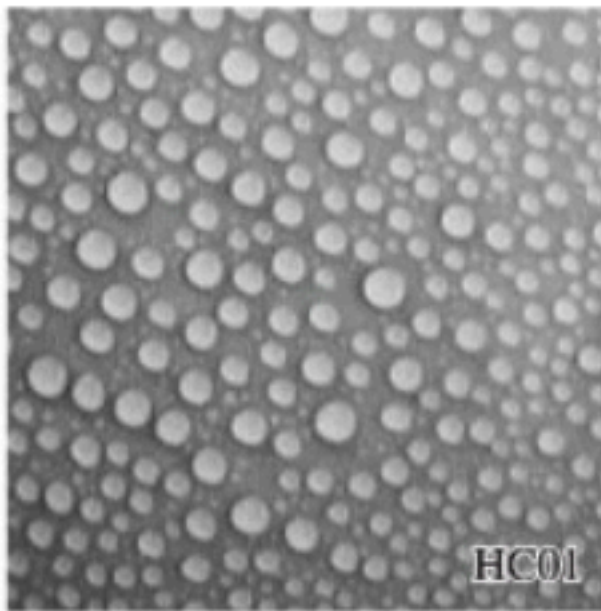


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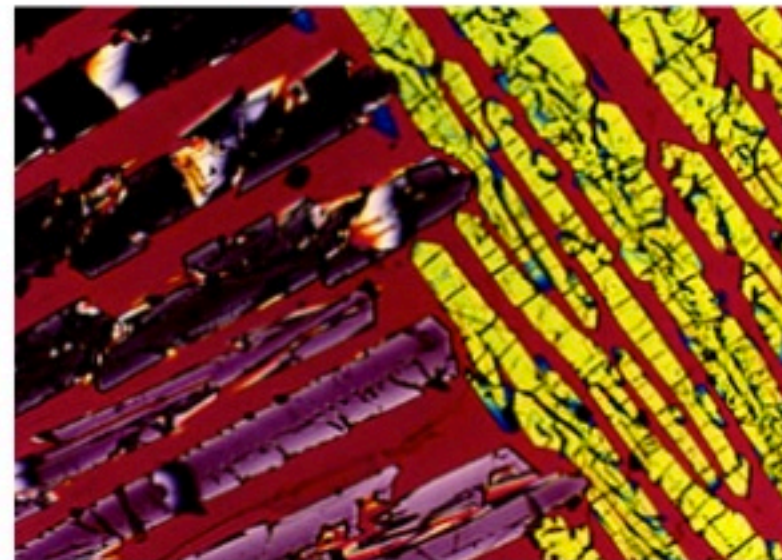
TEXTURE



Homogeneity in texture

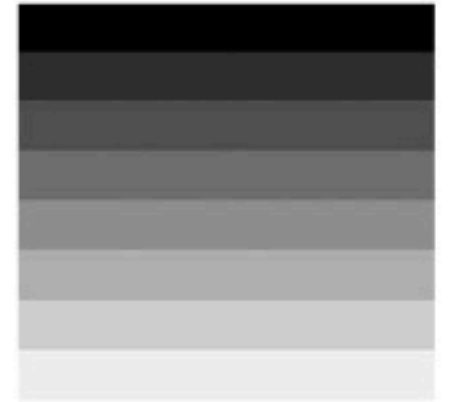


Heterogeneity in texture

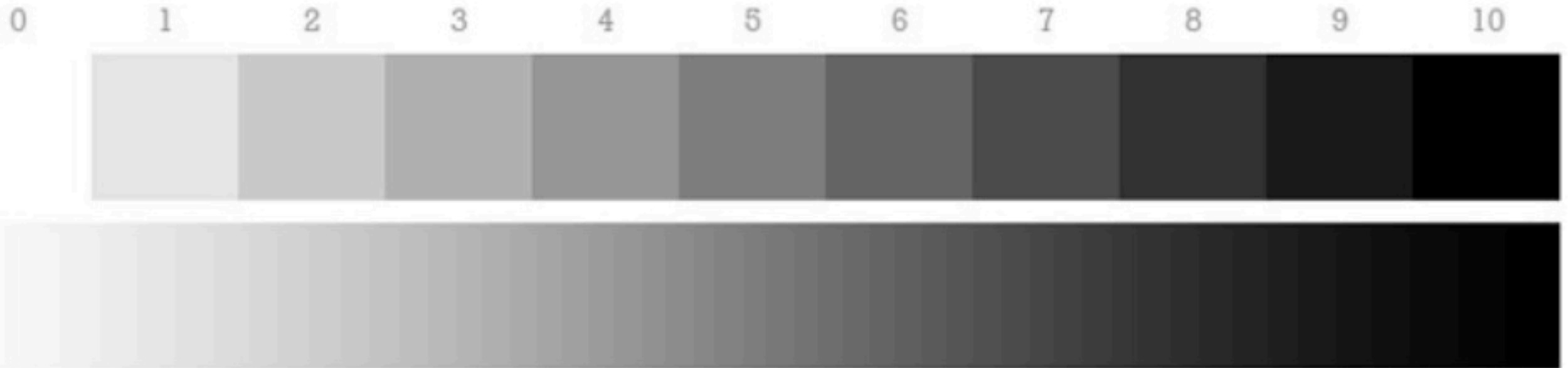


Design

VALUES



Value (Brightness) - is the degree of light and dark in colour. It is the contrast between black and white and all the tones in between. Value can be used with color as well as black and white. Contrast is the extreme changes between values.



Design

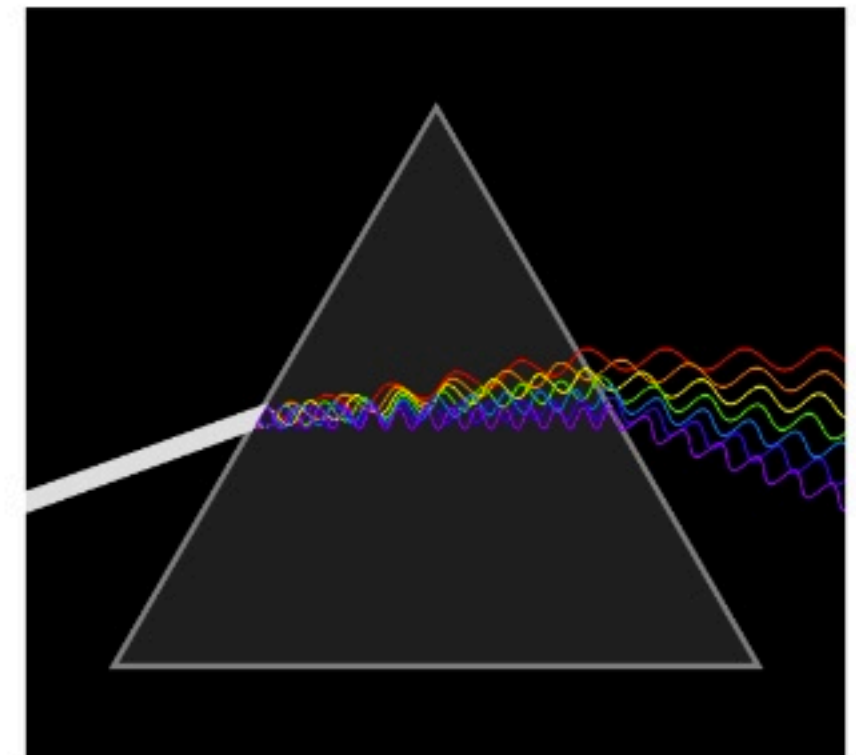
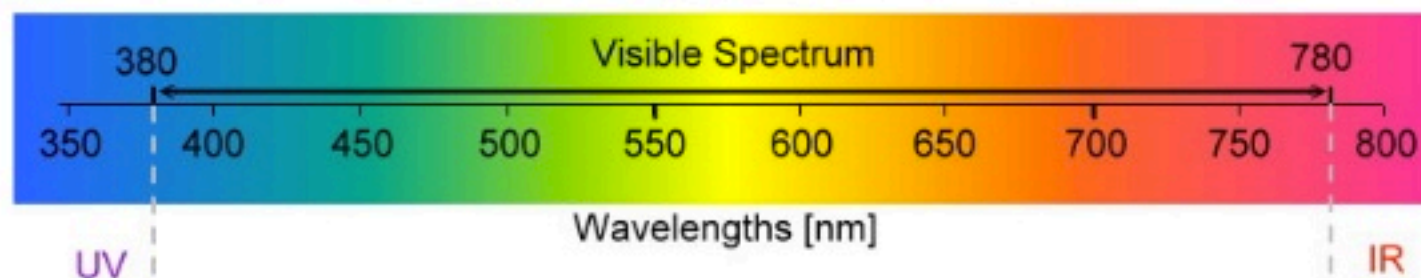
VALUES



Black and White are not colours **WHY ????**

In physics, a color is visible light with a specific wavelength. Black and white are not colors because they do not have specific wavelengths. Instead, white light contains all wavelengths of visible light. Black, on the other hand, is the absence of visible light.

in the visible spectrum, **white** reflects light and is a presence of all **colors**, but **black** absorbs light and is an absence of **color**. **Black** can be defined as the visual impression experienced when **no** visible light reaches the eye.

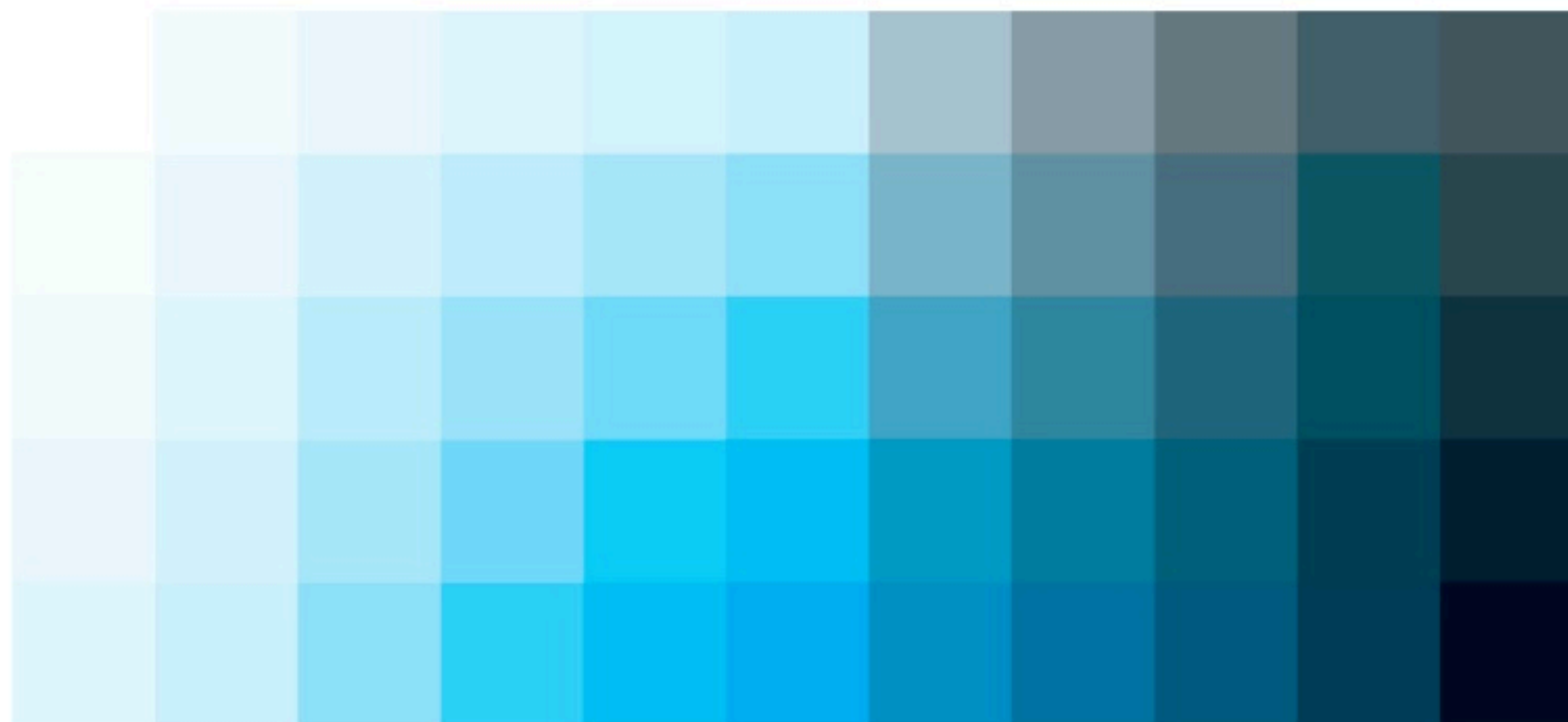


Design

VALUES



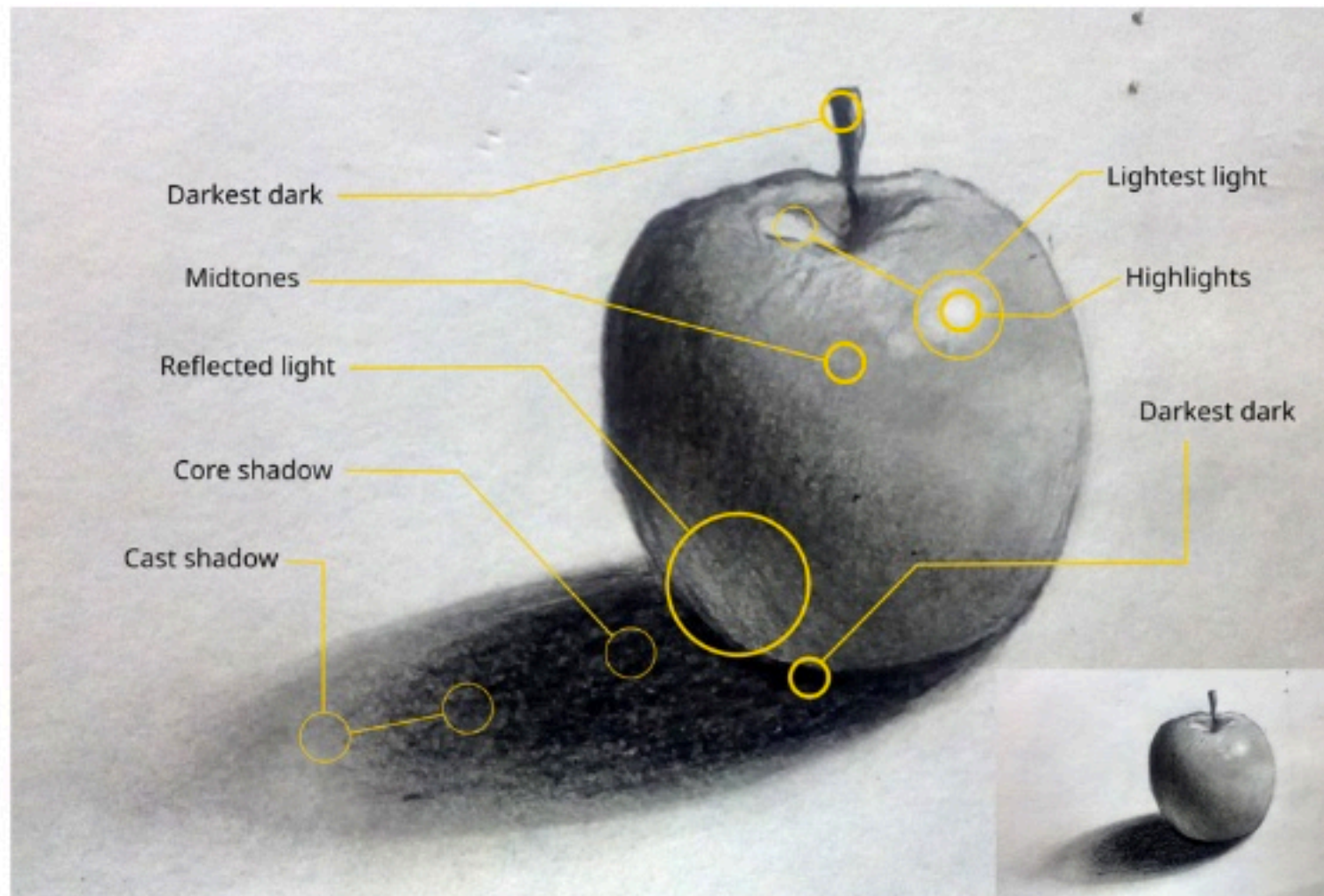
Colour Value – values of colour change by adding white or black to the pure colour. When white is added to pure colour for getting different value, it is called **Tint of that Colour** and similarly when black is added it is called **Shade of that Colour**.



← Adding white 20% intervals TINT PURE COLOR SHADE Adding black 20% intervals →

Design

VALUES



Visual perception of matter is greatly depends on Values. Values help us perceive objects or matter distance, size, nature, colour, stability etc visually.

Design

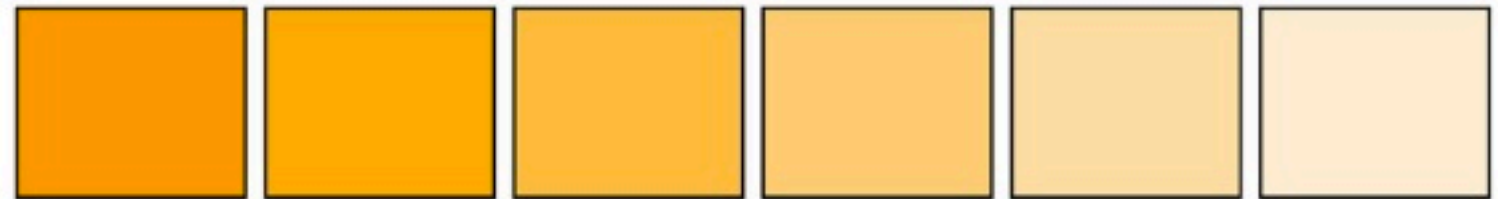
SHADES, TINT & TONE

In **color** theory, a tint is the mixture of a **color** with white, which increases lightness, and a **shade** is the mixture of a **color** with black, which reduces lightness. A tone is produced either by the mixture of a **color** with gray, or by both tinting and shading.

VALUES



TINT - adding white to a pure hue



SHADE - adding black to a pure hue



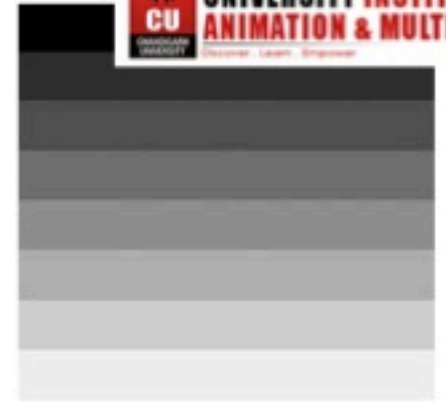
TONE - adding gray to a pure hue



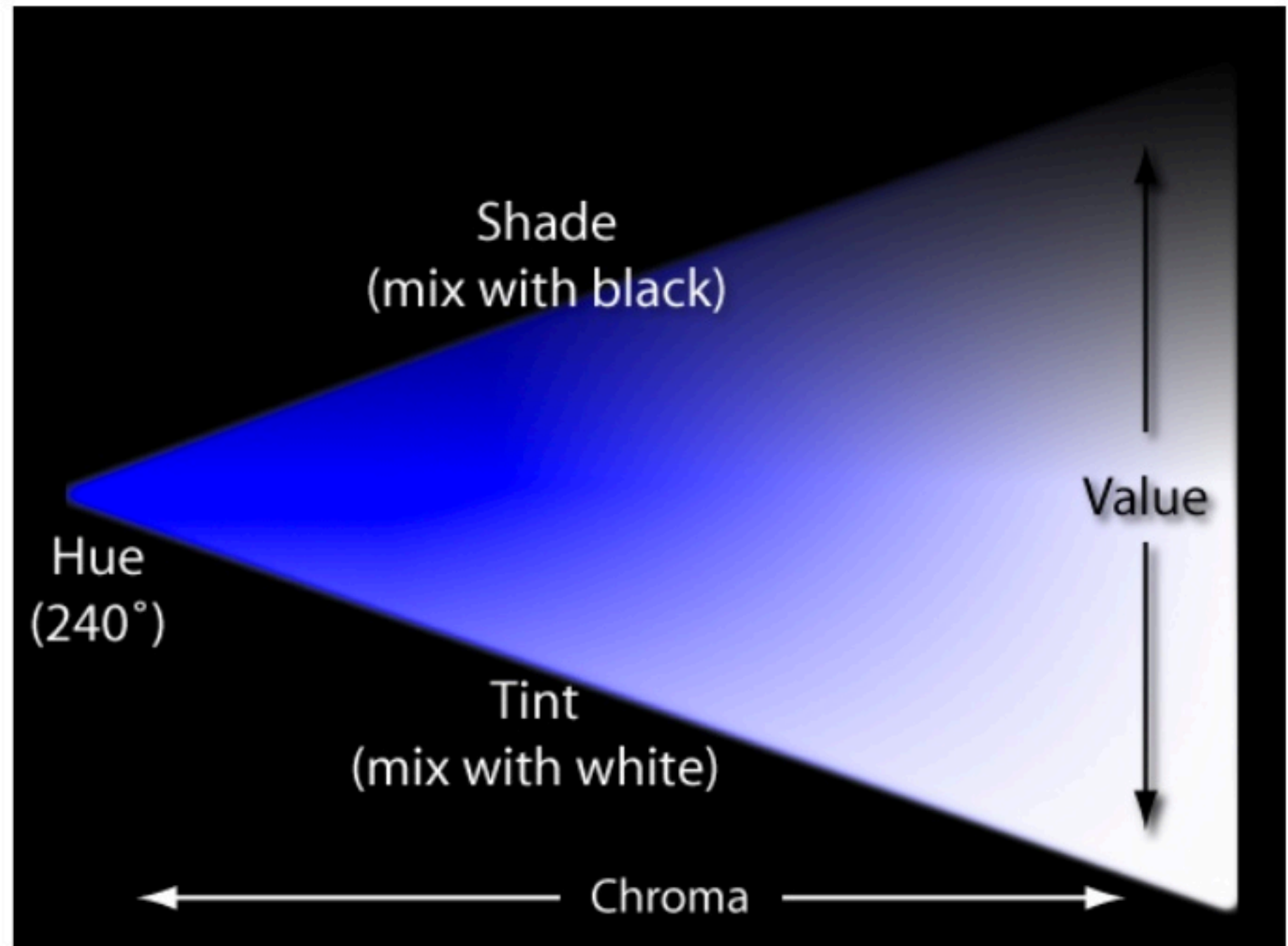
Design

TONES

VALUES



A Tone is created by adding **both White and Black which is grey**. Any color that is “**greyed down**” is considered a Tone. Tones are somehow more pleasing to the eye. They are more complex, subtle and sophisticated.



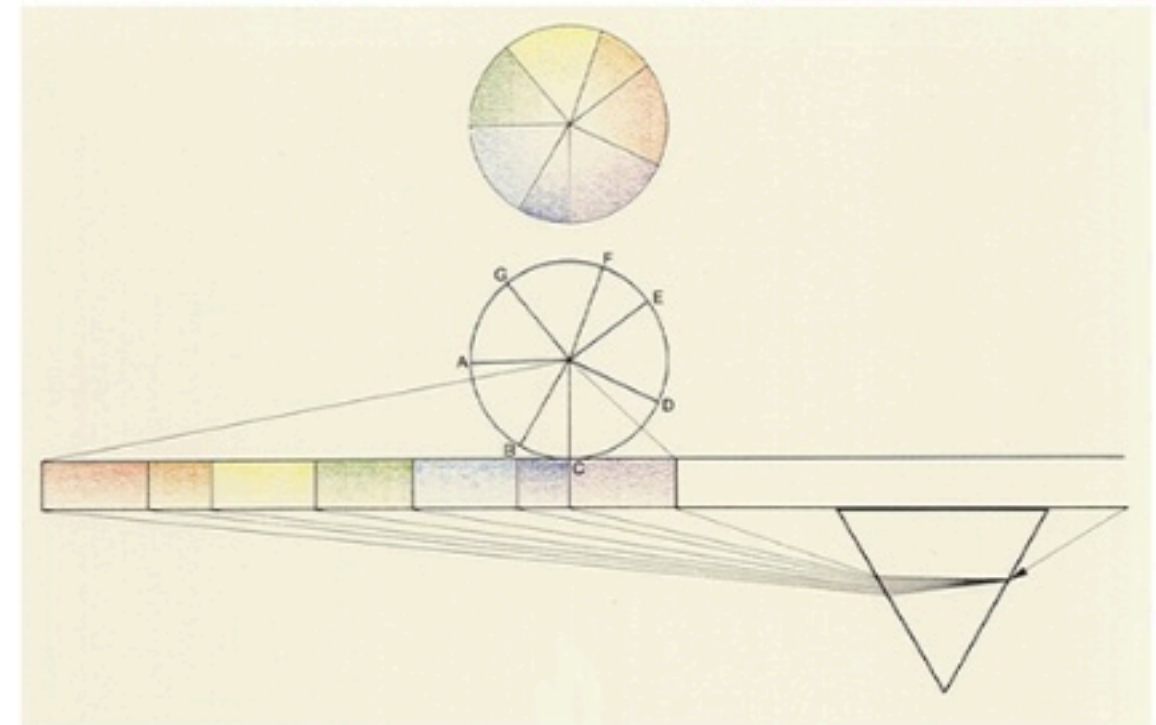
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Colour Wheel

After Newton had used a prism to separate daylight and count seven individual colours, it appeared to him that, when considering colour-hue, this was a closed system. By taking the violet end of the spectrum and linking it to the red start-point, he thus created a convincing circle of colours.

The first color wheel has been attributed to Sir Isaac Newton, who in 1706 arranged red, orange, yellow, green, blue, indigo, and violet into a natural progression on a rotating disk. As the disk spins, the colors blur together so rapidly that the human eye sees white

Colours



Design

Colours



Colour Wheel

Hue: a hue refers to a pure color, A colour without **tint** or **shade** (added white or black pigment, respectively). A **hue** is an element of the color wheel

TINTS



ORIGINAL



SHADES



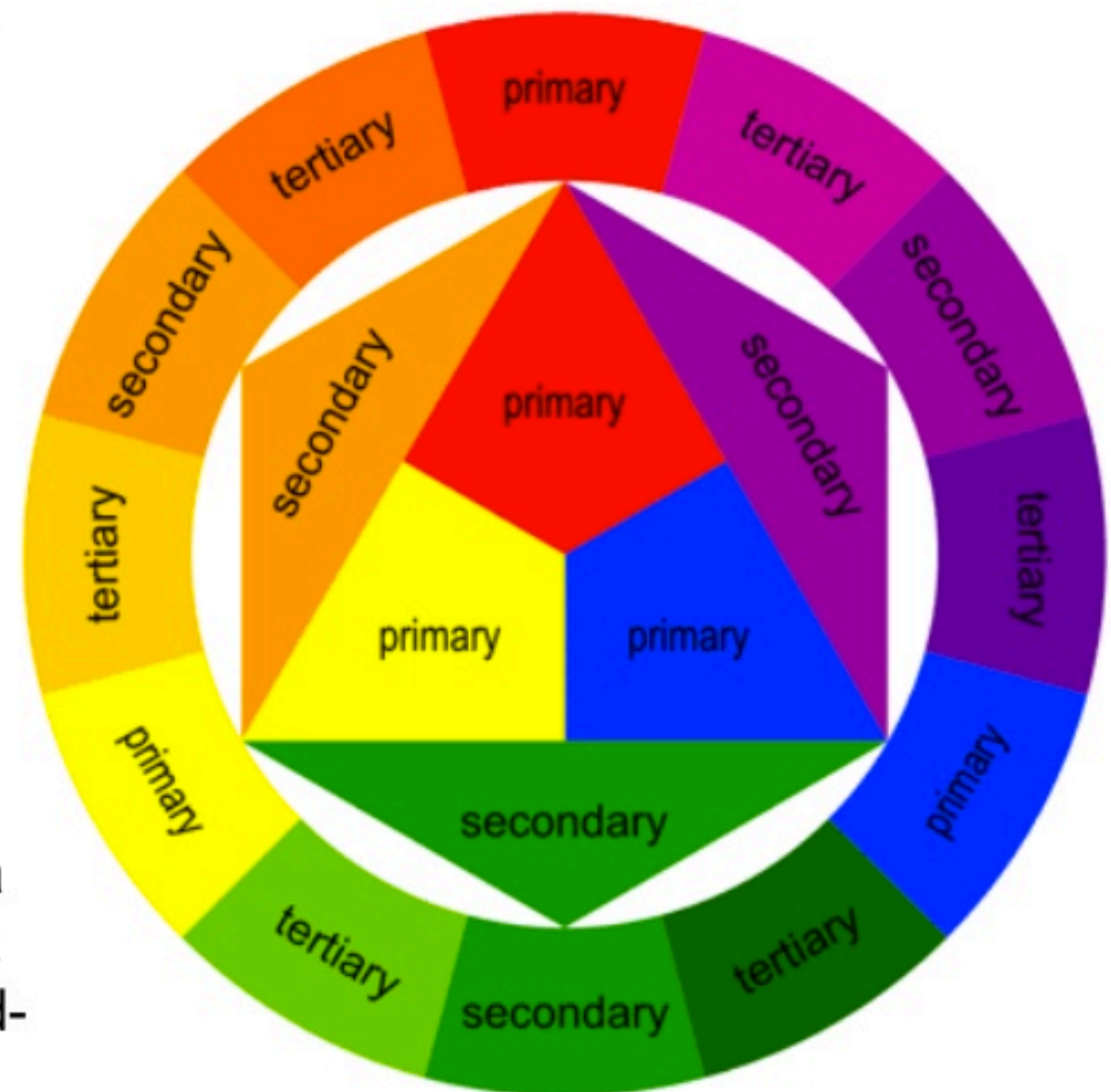
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Primary Colors: Red, yellow and blue
In traditional color theory (used in paint and pigments), primary colors are the 3 pigment colors that can not be mixed or formed by any combination of other colors. All other colors are derived from these 3 hues.

Secondary Colors: Green, orange and purple. These are the colors formed by mixing the primary colors.

Tertiary Colors: Yellow-orange, red-orange, red-purple, blue-purple, blue-green & yellow-green. These are the colors formed by mixing a primary and a secondary color. That's why the hue is a two word name, such as blue-green, red-violet, and yellow-orange.

Colours



Design

Colours



Colour Harmony :

Harmony can be defined as a pleasing arrangement of parts, whether it be music, poetry, color, or even an ice cream sundae.

In visual experiences, harmony is something that is pleasing to the eye. It engages the viewer and it creates an inner sense of order, a balance in the visual experience. When something is not harmonious, it's either boring or chaotic. At one extreme is a visual experience that is so bland that the viewer is not engaged. The human brain will reject under-stimulating information. At the other extreme is a visual experience that is so overdone, so chaotic that the viewer can't stand to look at it. The human brain rejects what it can not organize, what it can not understand. The visual task requires that we present a logical structure. Color harmony delivers visual interest and a sense of order.

In summary, extreme unity leads to under-stimulation, extreme complexity leads to over-stimulation. Harmony is a dynamic equilibrium.

Design

Colour Schemes

Colours



Complementary



Analogous



Triadic



Split-Complementary



Rectangle



Square

Design

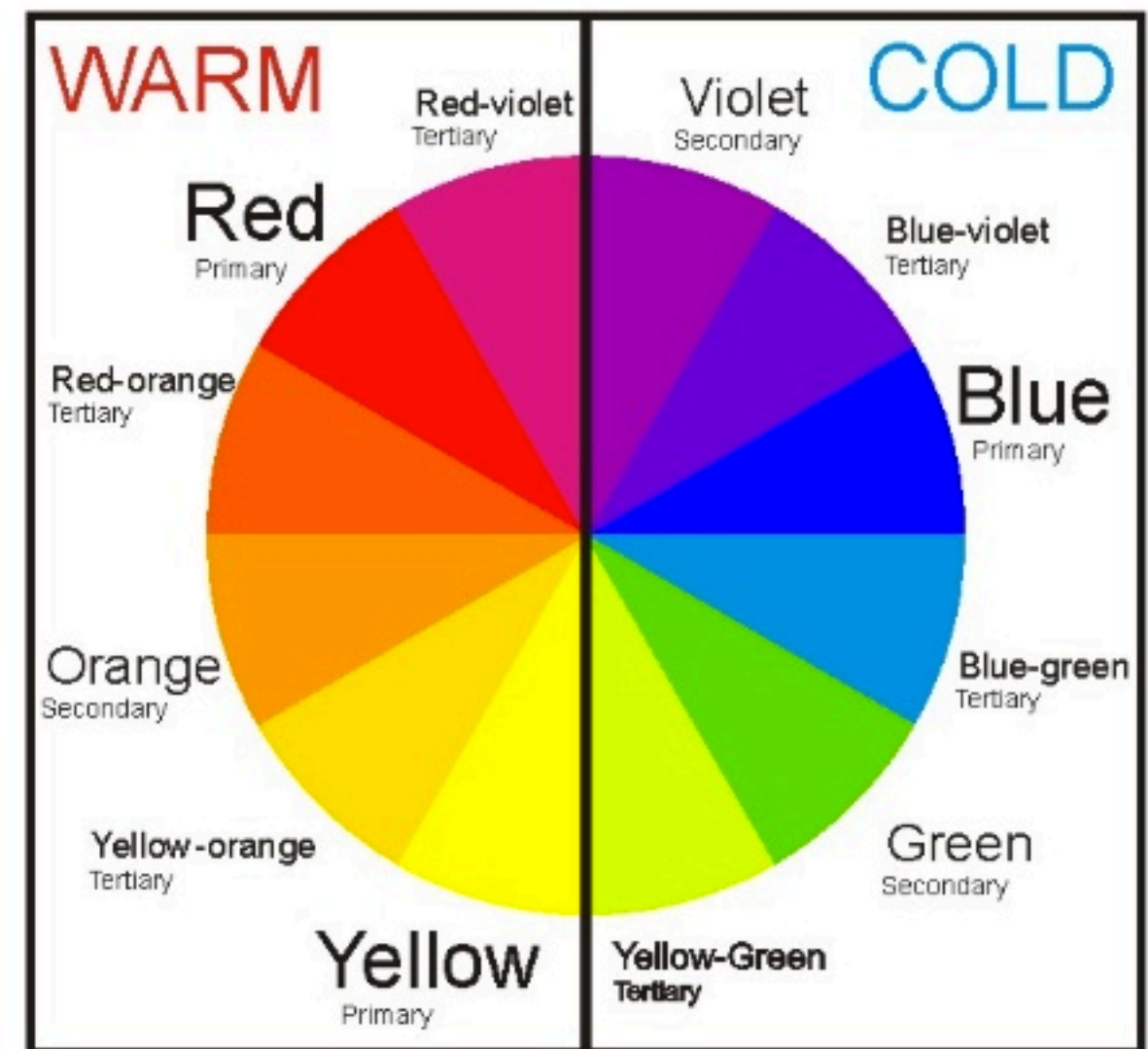
Warm & Cool Colours

The color circle can be divided into warm and cool colors.

Warm colors are made with orange, red, yellow and combinations of them all. As the name indicates, they tend to make you think of sunlight and heat. Warm colors look as though they come closer, or advance (as do dark colors), which is why they're often used to make large rooms look cozier.

Cool colors Cool colors such as blue, green and light purple have the ability to calm and soothe. Where warm colors remind us of heat and sunshine, cool colors remind us of water and sky.

Colours



Design

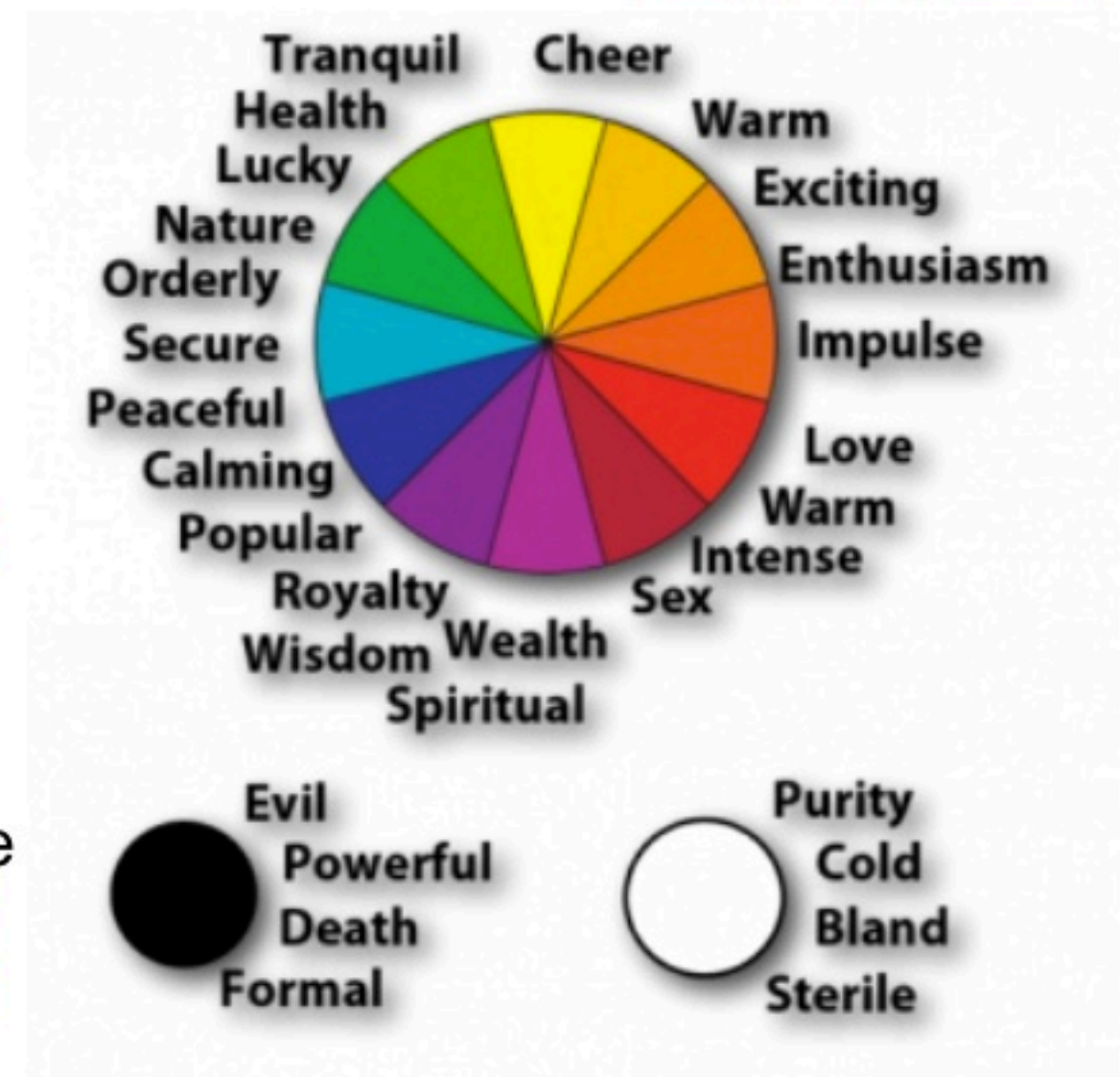
Moods of Colours

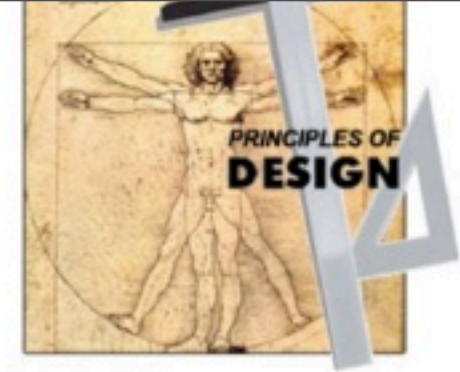
The Psychological Effects of Color

While perceptions of color are somewhat subjective, there are some color effects that have universal meaning. Colors in the red area of the color spectrum are known as warm colors and include red, orange and yellow. **These warm colors evoke emotions ranging from feelings of warmth and comfort to feelings of anger and hostility.**








Colors on the blue side of the spectrum are known as cool colors and include blue, purple and green. **These colors are often described as calm, but can also call to mind feelings of sadness or indifference.**

Colours












The Elements of Design (the tools to make art)

Line		Horizontal, vertical, diagonal Straight, curved, dotted, broken Thick, thin
Shape		2D (two dimensional)/ flat Geometric (square, circle, oval, triangle) Organic (all other shapes)
Form		3D (three dimensional) Geometric (cube, sphere, cone) Organic (all other forms such as: people, animals, tables, chairs, etc)
Colour		Refers to the wavelengths of light Refers to hue (name), value (lightness/darkness), intensity/saturation, or amount of pigment), and temperature (warm and cool) Relates to tint, tone and shade
Texture		The feel, appearance, thickness, or stickiness of a surface (for example: smooth, rough, silky, furry)
Space		The area around, within, or between images or parts of an image Relates to perspective Positive and negative space
Value		The darkness or lightness of a color. White added to a color makes it a <i>tint</i> . Black added to a color makes it a <i>shade</i> .

The Principles of Design (how to use the tools to make art)

Pattern		A regular arrangement of alternated or repeated elements (shapes, lines, colours) or motifs.
Contrast		The juxtaposition of different elements of design (for example: rough and smooth textures, dark and light values) in order to highlight their differences and/or create visual interest, or a focal point.
Emphasis		Special attention/importance given to one part of a work of art (for example, a dark shape in a light composition). Emphasis can be achieved through placement, contrast, colour, size, repetition... Relates to focal point.
Balance		A feeling of balance results when the elements of design are arranged symmetrically or asymmetrically to create the impression of equality in weight or importance.
Proportion/Scale		The relationship between objects with respect to size, number, and so on, including the relation between parts of a whole.
Harmony		The arrangement of elements to give the viewer the feeling that all the parts of the piece form a coherent whole.
Rhythm/Movement		The use of recurring elements to direct the movement of the eye through the artwork. There are five kinds of rhythm: random, regular, alternating, progressive, and flowing. The way the elements are organized to lead the eye to the focal area. Movement can be directed for example, along edges and by means of shape and colour.