

Font Design



Objective

In this lesson students will design their own type face. Students will familiarize oneself with terminology that corresponds with font design. This assignment requires student to plan out how each letter and number will look. This will require student to take their time and properly plan how each letter will interact with one and other. Students will use the pen, scissors, layers and pathfinder tools to aid in the creation of their typeface.

1. Design Type Face
2. Mastering Terminology
3. Type Face Design Planning & Implementation
4. Pen Tool (Add Point, Minus Point, Convert Point)
5. Scissor Tool
6. Pathfinder (Unite, Minus Front, Intersect, Divide)

NY State Standards

Standard 1. Students will make works of art that explore different kinds of subject matter, topics, themes, and metaphors. Students will understand and use sensory elements, organizational principles, and expressive images to communicate their own ideas in works of art. Students will use a variety of art materials, processes, mediums, and techniques, and use appropriate technologies for creating and exhibiting visual art works.

Students: Standard 1

1. Experiment and create art works, in a variety of mediums (drawing, painting, sculpture, ceramics, printmaking, video, and computer graphics), based on a range of individual and collective experiences.
2. Develop their own ideas and images through the exploration and creation of art works based on themes, symbols, and events.
3. Understand and use the elements and principles of art (line, color, texture, shape) in order to communicate their ideas.
4. Reveal through their own art work understanding of how art mediums and techniques influence their creative decisions.

Standard 2. Students will know and use a variety of visual arts materials, techniques, and processes. Students will know about resources and opportunities for participation in visual arts in the community (exhibitions, libraries, museums, galleries) and use appropriate materials (art reproductions, slides, print materials, electronic media). Students will be aware of vocational options available in the visual arts.

Students: Standard 2

1. **Understand the characteristics of various mediums (two-dimensional, three-dimensional, electronic images)**
2. **In order to select those that are appropriate for their purposes and intent, develop skills with electronic media as a means of expressing visual ideas.**

Standard 3. Students will reflect on, interpret, and evaluate works of art, using the language of art criticism. Students will analyze the visual characteristics of the natural and built environment and explain the social, cultural, psychological, and environmental dimensions of the visual arts. Students will compare the ways in which a variety of ideas, themes, and concepts are expressed through the visual arts with the ways they are expressed in other disciplines.

Students: Standard 3

1. **Explain their reflections about the meanings, purposes, and sources of works of art; describe their responses to the works and the reasons for those responses.**
2. **Explain the visual and other sensory qualities (surfaces, colors, textures, shape, sizes, volumes) found in a wide variety of art works.**

Materials

I. Materials needed for this lesson will be...

- Grid Paper
- Pencil & Eraser
- iMac
- Adobe Illustrator
- Scanner

II. Optional Materials can include...

- Ruler & French Curves
- Sharpie Marker



Procedures

1. Introduce students to lesson's terminology. (See Terms Section.)



2. Have students draw out type face on grid paper with pencil and eraser. Students need to draw out A-Z and 0-9. Students can have the option to use a ruler, french curve, flexible french curve, and a sharpie.
3. Have students diagram five letters listing where the ascender height, cap height, median, median line, baseline, x-height, and descender line is.
4. Once students are done drawing out their type face they can scan it into the computer and begin working on it in illustrator.
5. Once in illustrator we will need to adjust setting as a class. Students must use template give.
6. Throughout the lesson students will explore in-depth the pen, scissors, and pathfinder tools. While managing layers pallet for ease of flow.
7. At end of lesson give test on terms and labeling.
 - Draw alphabet and 0-9
 - Label 5 letters with ascender height, cap height, median, median line, baseline, x-height, and descender line.
 - Scan into computer
 - Set up template
 - Begin illustrator work
 - Quiz on Terms

Vocabulary

Ascender: the part of a lowercase letter, as b, d, f, h, that rises above x-height.
a letter rising above x-height, as b, d, f, h, etc.

Cap Height: In typography, cap height refers to the height of a capital letter above the baseline for a particular typeface.[1] It specifically refers to the height of capital letters that are flat—such as H or I—as opposed to round letters such as O, or pointed letters like A, both of which may display overshoot. The height of the small letters is referred to as x-height.

X-height: In typography, the x-height or corpus size refers to the distance between the baseline and the mean line in a typeface. Typically, this is the height of the letter x in the font (the source of the term), as well as the u, v, w, and z. (Curved letters such as a, c, e, m, n, o, r and s tend to exceed the x-height slightly, due to overshoot.) However, in modern typography, the x-height is simply a design characteristic of the font, and while an x is usually exactly one x-height in height, in some more decorative or script designs, this may not always be the case.

Lowercase letters whose height is greater than the x-height either have descenders which extend below the baseline, such as y, g, q, and p, or have ascenders which extend above the x-height, such as l, k, b, and d. The ratio of the x-height to the body height is one of the major characteristics that defines the appearance of a typeface. The height of the capital letters is referred to as Cap height.

In computing, one use of x-height is as a unit of measurement in web pages. In CSS, and LaTeX the x-height is called an ex. The use of ex in dimensioning objects, however, is less stable than use of the em across browsers. Internet Explorer, for example, dimensions ex at exactly one half of em, whereas Mozilla Firefox dimensions ex closer to the actual x-height of the font, rounded relative to the font's current pixel height. Thus, the exact ratio of ex to em can also vary by font size within a browser if the determined values are rounded to the nearest whole unit. For example, a browser calculating an x-height of 45% on a font 10 pixels tall may round ex to either 4 pixels or 5 pixels or leave it at 4.5 pixels.

Base Line: In European and West Asian typography and penmanship, the baseline is the line upon which most letters "sit" and below which descenders extend.

In the example to the right, the letter 'p' has a descender; the other letters sit on the (red) baseline.

Most, though not all, typefaces are similar in the following ways as regards the baseline:

capital letters sit on the baseline. The most common exceptions are the J and Q.

Lining figures ([see Arabic numerals](#)) sit on the baseline.

The following text figures have descenders: 3 4 5 7 9.

The following lowercase letters have descenders: g j p q y.

Glyphs with rounded lower and upper extents (*0 3 6 8 c C G J o O Q*) dip very slightly below the baseline ("*overshoot*") to create the optical illusion that they sit on the baseline, and rise above the x-height or capital height to create the illusion that they have the same height as flat glyphs (*such as those for H x X 1 5 7*). Peter Karow's *Digital Typefaces* suggests that typical overshoot is about 1.5%.

The vertical distance of the base lines of consecutive lines in a paragraph is also known as line height or leading, although the latter can also refer to the baseline distance minus the font size.

North Indian scripts have a characteristic hanging baseline; the letters are aligned to the top of the writing line, marked by an over-bar, with diacritics extending above the baseline.

East Asian scripts have no baseline; each glyph sits in a square box, with neither ascenders nor descenders. When mixed with scripts with a low baseline, East Asian characters should be set so that the bottom of the character is between the baseline and the descender height.

Descender: In typography, a descender is the portion of a letter that extends below the baseline of a font. The line that descenders reach down to is known as the beard line.

For example, in the letter y, the descender would be the "tail," or that portion of the diagonal line which lies below the v created by the two lines converging. In the letter p at right, it is the stem reaching down past the o.

In most fonts, descenders are reserved for lowercase characters such as g, j, q, p, y, and sometimes f. Some fonts, however, also use descenders for some numerals (*typically 3, 4, 5, 7, and 9*). Such numerals are called old-style numerals. (*Some italic fonts, such as Computer Modern italic, put a descender on the numeral 4 but not on any other numerals. Such fonts are not considered old-style.*) Some fonts also use descenders for the tails on a few uppercase letters such as J and Q.