# The Tools of Graphic Design

The Movie:

Graphic artists lay out images and type with tools like rulers, triangles, compasses and computers, so the printer can perfectly recreate the designer's work. Featured: Jon Coy, Creative Director, Coy L.A.; Sean Alatorre, Designer, Coy L.A.; Corinne Tuite, Designer, Coy L.A. *(Movie length: 1:05)*

Background:

Originally, graphic art consisted largely of beautiful hand-drawn illustrations in hand-printed books. The breakthrough technology of woodcuts made it possible to reproduce the same image many times, and from that day to this the tools of the graphic artist have evolved to the degree that many modern graphic arts professionals seldom touch pen or pencil to paper. But what hasn't changed, no matter the tool, is the importance of the artist's understanding of dimension and proportion.

Curriculum Connections:
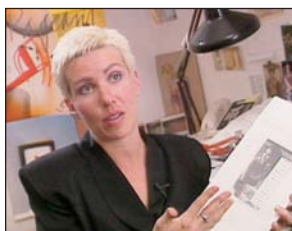
Decimals, Measurement (length)   1

Imagine this is an ad which is going to a publication in Europe. Convert all dimensions to centimeters.

1.5"

Own this luxury automobile **today!**

1.85"

1.0"

Just **$8,950!**
714-555-1234

1.8"

3.0"

Algebra (expressions)

On a computer, a photograph or drawing is stored as a collection of pixels. Pixel is short for "picture element", and refers to a single tiny area of the photograph which is all the same color.

The photograph at left is actually made up of 12,000 separate pixels, each too tiny to distinguish. The photograph on the right is a blow-up of one small section, and shows the pixels.

The size of a pixel is usually expressed in terms of "pixels per inch". The photo on the left illustrates 300 pixels per inch; the one on the right illustrates only 25 pixels per inch.

There is a relationship between the number of pixels in a photo, the size of the pixels and the size of the photo:

height (or width) = (number of pixels)/(pixels per inch)

For the photo at left above, which is 300 pixels high x 400 pixels wide, you would have:

height = (300 pixels)/(300 pixels per inch) = 1 in.

width = (400 pixels)/(300 pixels per inch) = 1.33 in.

Use the formula to fill in the missing numbers in this table:

| Photo	# of pixels		Size		Pixels per inch	Total # of pixels
	height	width	height	width		
A	300	600	?	?	300	180,000
B	?	?	10"	8"	300	?
C	?	3,000	8"	5"	?	?
D	1,000	?	?	?	200	1,000,000

Geometry (circles)

Circles can be used as a pattern for drawing letters. On this page are some examples of this. Use the circle patterns and the edge of a ruler to make more of the letters of the alphabet.

Use a compass to draw the same circle pattern on another sheet of paper, but large enough to fill the whole sheet. Use this new pattern to make a large letter.

Think of a sign you would like to make and make it with large letters.
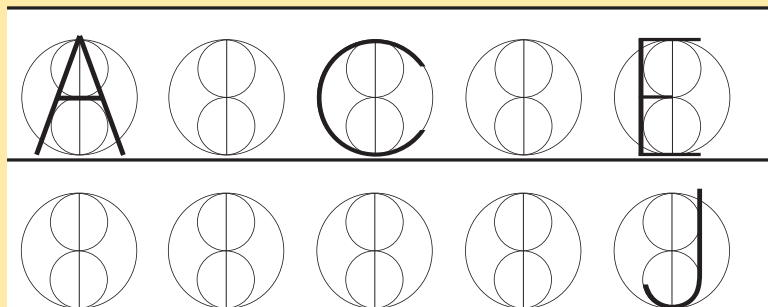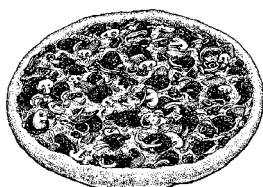
Pete's Pizza

You have been given the job of creating a magazine ad for Pete's Pizza Restaurant. The ad is to be one full page in size (8 1/2" by 11").

On this page are possible parts of the ad. You must choose the ones you want to use, and decide how much bigger or smaller they should be in the ad.

Fill out a table like the one below to show which items you want in your ad and how much bigger or smaller they will be. Then make a drawing of your ad, showing how you think it will look.

After you complete your drawing, your teacher will give you the parts that you need in the right sizes for your ad, and you can paste them on a new sheet of paper to finish it.
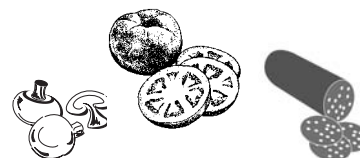
Item	Current Size	Percent bigger or smaller (50%, 75%, 90%, 100%, 110%, 125%, 150%, or 200%)	New size
Pizza			
Restaurant			
Ingredients			
Location			
Map			
Drink			
Stars			

1. Pizza

2. Restaurant

3. Ingredients

At Broadway and 57th Street

4. Location

58th
57th **X**
56th
55th

8th St. 7th St.

Broadway
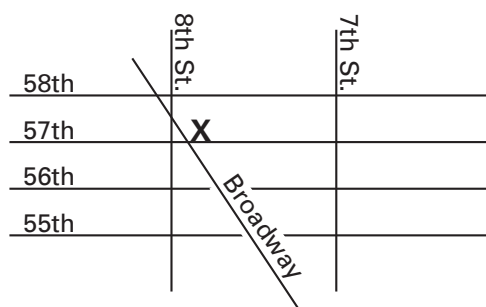
5. Map

Best
Root Beer
in the City!

6. Drinks

5-Star Pizza!
★ ★ ★ ★ ★

7. Stars

Teaching Guidelines: Pete's Pizza
Math Topic: Percents

Materials:

Use a copy machine with magnification/reduction capability to make 10 copies of each of the ad elements page, in each of these sizes:

50%, 75%, 90%, 100%, 110%, 125%, 150%, 200%

If possible, the ad elements should be made with paper of various colors so the ad that the students create will be more interesting and visually appealing.

Arrange the class in teams of two or three students each. Hand out the "Pete's Pizza" instruction sheet and "ad parts" sheet to each team.

Discuss the instructions for the activity and ensure that students understand that they are to create an ad using the elements given.

Students are to design their ads without looking at the reduced and magnified elements which you have made. Rather they should measure each of the elements they want to use, choosing a percent reduction or magnification, computing the "ad" size of the element, and sketching it in on a blank sheet of paper at that size.

Verify that the students have correctly filled out their charts and sketched their ads, and that all of the elements they want to use will fit in their ad at the sizes they have selected. Then give them the elements they have chosen in the sizes they want and have them create their ad by pasting them on a new blank sheet of paper.

Note: Students will need to decide how to measure the size of the objects. They may choose any dimension they wish (length, width, diagonal distance, diameter, etc.)

In addition to giving students practice in computations involving percent, this activity will help students develop their "percent sense".

If you enjoyed this Futures Channel Movie, you will probably also like these:

Creating an Advertising Campaign, #4007	Creating an advertising campaign requires inspiration, design skills and computer know-how.
Corporate Graphics, #4008	To make one design fit on business cards, trucks and buildings, you need to be an expert on the concept of *scale*.
Designing Sunglasses, #4012	Watch as a new model of sunglasses goes from design sketch to finished product.