

Computer-Based Graphics Tools

Definitions, Benefits, and Limitations of Graphics Programs



Print Graphics: allow users to create banners, posters, signs, certificates, simple letterheads and greeting cards



Drawing : allow users to create images that are vector or object oriented; each part of the picture is separate element that can be changed independently



Painting : paint programs draw images that are bitmapped; they also allow users more freedom in creativity than draw programs



Idea Processors: tools that help brainstorm thoughts, diagram information, and turn diagrams into outlines to promote writing

Animation: software programs that allow the user to simulate motion by displaying a sequence of images in rapid succession



Common Tools Found in Graphics Programs

Shared Functions across most graphics programs: text tool, line tool, rectangle tool, round corner rectangle tool, circle/oval tool, arc tool, polygon tool, free hand tool, bezigon tool, regular polygon tool, eyedropper tool, marquee selection tool, lasso selection tool, magic wand tool, paint brush tool, pencil tool, paint can tool, spray can tool, eraser tool, zoom tool, color, patter and gradient and fill selectors, color pattern width and arrow pen selectors and fill and pen indicators.



File Formats

Proprietary Formats

Examples: PICT, PCX

Benefits and Limitations: limitation – they are proprietary, benefits -

Web-Based Formats

Benefits and Limitations of .jpg: benefits – produces high quality images while reducing file size though a process called lossy; limitations – require more memory and take up more disk space

Benefits and Limitations of .gif: benefit – supported by MAC and Windows; limitations -

Tools for Obtaining Graphics

Defining Importing and Exporting: importing brings images into files from other locations, exporting sends files from one source to another

Benefits and Limitations of –



Clip Art: Benefit - pre-done art that can be found on disks and on the web or is prewritten into programs. Clip Art saves a lot of time and frustration, as long as you can find an image you are looking for. Disadvantage – stifles creativity



Web-Based Graphics: Benefit - pre-existing art found on the internet, easily copied and pasted into a document, realistic photographs and professional graphic designs that save time and frustration; disadvantage – may be copyrighted and using them may be breaking the law



Digital Cameras: Benefit – can be used to take pictures and get the exact image you want (the essence can be captured and can be edited); limitations – copyright laws must be observed when taking pictures for publishing use



Scanners: Benefit – images can be copied from paper sources and can be manipulated; disadvantages – scanner size – some may not be large enough to copy pictures needed

The Language of Visual Representation

Techniques and Tools



The Basic Elements of Graphics

Definition: The contour edges of the objects and the spaces between them are represented by continual patterns of the same five visual elements. Often referred to as the “alphabet of shape,” the five visual elements are those associated with the dot family, the circle family, and the line family. The line family is divided into the straight-line family, the curved-line family, and the angle-line family.

Associated Concepts: Shapes are combinations of these basic elements. Students must learn to isolate and observe these five elements in everything they see.



Color and Texture

Definition: An important part of any composition because of their emotional qualities and their powerful physical effect

Associated Concepts: Colors are described as either warm or cool; the idea of color temperature is based on an emotional response rather than a physical reality; it is possible to create the illusion of space by putting cool colors in the background and warm ones in the foreground

Rules to Know about Color Use: Each warm color has a complimentary cool color; an object's shadow should be created in its complimentary color



Perspective

Definition: Perspective is the ability to create the illusion of depth and three dimensions on a two dimensional surface

Associated Concepts: 3-dimensions and perspective

Eight Techniques: foreshortening, shading, surface, size, contour lines, overlapping, density, and shadows



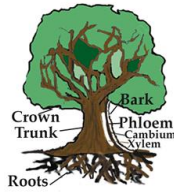
Composition

Definition: The kinds of decisions the artist makes concerning the placement of objects on the drawing surface

Associated Concepts: to the center of the paper for placing the main subject or center of interest, strategies for placing secondary centers of interest, understanding foreground/mid-ground/background, and tricks for creating different effects

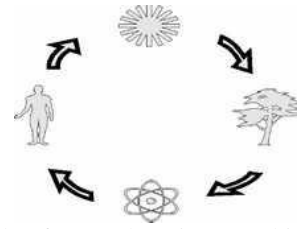
Basic Rules: Understanding the relationship among the three drawing planes: foreground, mid-ground, and background

Five Purposes of Graphic Representation



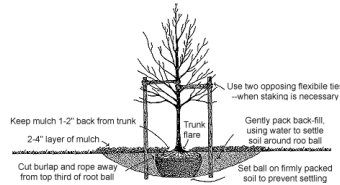
This is an example of a representational graphic because . . .

One instructional idea for using representational graphics to support learning is to teach young children the parts of a plant.



This is an example of an explanative graphic because . . .

One instructional idea for using explanative graphics to support learning is to aid in understanding of the water cycle.



Note: It would be a good idea to look at this is 200% in order to read the words.

This is an example of an organizational graphic because . . .

One instructional idea for using organizational graphics to support learning is to create story webs before students begin writing.



This is an example of a decorative graphic because . . .

One instructional idea for using decorative graphics to support learning is to enhance a student's presentation in any subject.



This is an example of a transformational graphic because . . .

One instructional idea for using transformational graphics to support learning is to show young children how something changes physically throughout the school year.