
SYNOPSIS:

Computers have been transformed from simple data storage devices into powerful picture makers used in a variety of ways. This program explores the exploding, dazzling field of computer graphics and their application in the entertainment, science, medical and military fields.

CURRICULUM UNITS:

Art
Computer Science
General Science
Health
Marketing
Technology

CAREER OPPORTUNITIES:

Animator
Artist
Cinematographer
Computer Engineer
Computer Programmer
Data Technician
Film Editor
Television Producer
Video Editor
Writer

PROGRAM OVERVIEW:

This program demonstrates that computer-generated graphics make possible much more than just video games and amazing special effects. We'll bring students into a production room and show them how we use computers to create programs. They'll see some of the techniques computer artists use to make pictures and animation do just about anything and seem "so real," that we might be unable to tell they are not.

ISSUES AND CRITICAL THINKING:

- 1) After showing the program, ask your students the following questions:
 - a) If they think we can believe everything we see.
 - b) Ask students to recall the last movie they saw.
 - c) What special effects do they remember?

- 2) Can they guess how the effects were created? Were there any segments of the movie they couldn't distinguish as "real" or computer-generated?

ANIMATION- An illusion of motion through rapid projection of individual frames of visual information.

CORNER-PINNING- A computer graphics effect which can alter the relationship between the height, width and depth of an image so it appears squeezed or stretched.

IMAGES- Reproductions or limitations of the form of a person or thing.

MATTING- A computer process in which an image can be taken, or grabbed from one picture and added to another.

REAL TIME- Computer graphics which are projected onto screens at the same time the real event is taking place.

SIMULATION- A realistic imitation of an actual event.

VIRTUAL REALITY- Computer generated three-dimensional graphics displays that emulate reality. Operators are able to explore places and see things that might otherwise be impossible.

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Biotechnology



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GRAPHICS: SCIENCE'S
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