ANIMATION:

CREATING MOVEMENT FRAME *by* FRAME

ADMIT ONE

ADMIT ONE

2004 NOMINEES
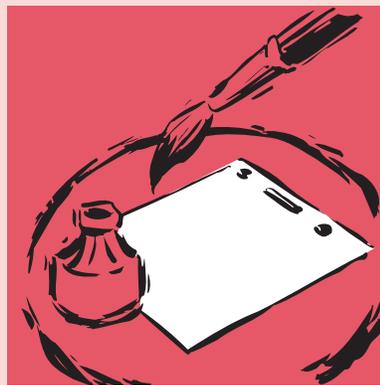
TEACHER'S RESOURCE GUIDE

Dear Educator:

Youth Media International, in cooperation with the Academy of Motion Picture Arts and Sciences, is proud to present this newest addition to our series of study guides that focus on different branches of the Academy. In this guide, students will learn about **animation**. The kit has been designed for students in high school English, language arts, visual arts and communications courses. The activities capitalize on students' natural interest in current films and the excitement generated by the upcoming Academy Awards® on February 29, 2004. They are designed to teach valuable lessons in critical thinking.

The Academy, organized in 1927, is a professional honorary organization composed of more than 6,000 motion picture craftsmen and women. Its purposes include advancing the art and science of motion pictures, promoting cooperation among creative leaders for cultural, educational and techno-logical progress; recognizing outstanding achieve-ments; and fostering educational activities between the professional community and the public. Academy members are the people who create movies—the cream of the industry's actors, animators, art direc-tors, cinematographers, costume designers, direc-tors, film editors, documentarians, make-up artists, composers, producers, sound- and visual-effects experts and writers.

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Sincerely,

Roberta Nusim

Roberta Nusim
Publisher

P.S. In an effort to satisfy your future teaching needs, we're looking to you for feedback on this kit. Please send your comments and sug-gestions to ymihq@aol.com.

Program Components
1. This instructional guide
2. Four student activity masters
3. A four-color wall poster for classroom display
4. A response card for teacher comments

Target Audience
This program has been designed for students in secondary school English, language arts and communications courses.

Program Objectives
1. To enhance student interest in and knowledge about the motion picture development and production process
2. To encourage students to use critical thinking as they learn how animators work
3. To engage students in an exploration of film as an art form and a medium of communication
4. To help students become more visually literate

Introduction
About the Academy and its Awards
The first Academy Awards were handed out on May 16, 1929, not long after the advent of "talkies." By 1930, enthusiasm for the ceremonies was so great that a Los Angeles radio station did a live, one-hour broadcast, and the Awards have enjoyed broadcast coverage ever since. The number and types of awards have grown and changed over the years to keep up with the develop-ment of the motion picture industry. Awards of Merit—Oscars—are presented in each (or in subdivisions) of the following categories: acting, animation, art direction, cinematography, costume design, directing, documentary film, film editing, foreign language film, make-up, music, best picture, short film, sound, visual effects and writing. In an age when awards shows seem as common as nightly news programs, the Academy Awards are unique because the judges—the approximately 6,000 Academy members—are the top filmmakers from around the world. The question, "Who gets the Oscar?" is decided by a true jury of peers. The awards process provides a wonderful opportunity to teach your students about the many craft areas and the many communications tech-niques that play a part in creating a motion picture. Filmmaking is by nature a collaborative process, with each creative area supporting and being supported by the others. Because our space is limited, this kit focuses on just one of those areas—animation.

Selecting Films for Student Viewing
Students may select the films they wish to view for the following activities, or you may wish to suggest films that are appropriate.

The following feature films have won Academy Awards for animation, are available on videotape and may be appropriate for your students: *Snow White and the Seven Dwarfs* (1938), *Fantasia* (1941), *Who Framed*

Roger Rabbit (1988), *Toy Story* (1995), *Shrek* (2001), and *Spirited Away* (2002). Other animated features that have been nominated for Academy Awards include: *Beauty and the Beast* (1991), *Ice Age* (2002), *Jimmy Neutron: Boy Genius* (2001), *Lilo & Stitch* (2002), *Monsters, Inc.* (2001), *Spirit: Stallion of the Cimarron* (2002), and *Treasure Planet* (2002). Academy Award-winning short films available on DVD and videotape include: *Walking* (1968), *The Crunch Bird* (1971), *Closed Mondays* (1974), *The Street* (1968), *The Sand Castle* (1977), *Crac!* (1981), *The Man Who Planted Trees* (1987), *Creature Comforts* (1990), and *A Close Shave* (1995). Additional animated films that may be suitable for your students include: *Alice in Wonderland* (1951), *Sleeping Beauty* (1959), *Iron Giant* (1999), *The Nightmare before Christmas* (1993), *Princess Mononoke* (1997) and *Chicken Run* (2000); and the short films *Neighbours* (1952), *Mindscape* (1976), *Pas de Deux* (1985) and *Luxo Jr.* (1986).

Activity One
The ORIGINS
of ANIMATION

From the beginning, animation has been an important part of film history. Even before the invention of the motion picture camera, photographer Eadweard Muybridge used sequential photographs to analyze animal and human movement. Early 19th-century devices such as the thaumatrope, praxinoscope and zoetrope anticipated motion picture animation by making still images appear to move. Quickly flashing a series of still pictures past the viewer, these devices took advantage of a phenomenon called "persistence of vision." Because the human eye briefly retains an impression of an image after it has disappeared, the brain will read a rapid series of images as an unbroken movement. Animated films work on the same principle. Each frame of an animated film is a separate still picture, individually exposed. Drawings or props are moved slightly between exposures, creating an illusion of movement when the film is projected.

In 1892, Emile Reynaud opened his popular Théâtre Optique in Paris, where he projected films that had been drawn directly on transparent celluloid, a technique that would not be used again until the 1930s. The "trick-films" of Parisian magician Georges Méliès mixed stop-motion and single-frame photography with live-action film for magical effect. By the early 20th century, animators such as J. Stuart Blackton and Winsor McCay in the U.S. and Emile Cohl in France were making animated films composed entirely of drawings. Brothers Max and Dave Fleischer, creators of Betty Boop, patented the rotoscope in 1917, enabling animators to copy the movement of live-action by tracing filmed live-action images frame by frame.

Walter Lantz in his studio.

Raoul Barré opened the first animation studio in New York around 1914. Soon studios in New York, California and elsewhere were producing short films that screened in theaters before the main feature. Over the next few decades, cartoon series flourished, featuring popular characters such as Felix the Cat, Disney's Mickey Mouse, Walter Lantz's Woody Woodpecker and Warner Bros.' Bugs Bunny and Wile E. Coyote. In the 1940s, George Pal's Puppetoons represented one of the few examples of commercial animation using three-dimensional materials.

In 1923, Walt and Roy Disney, Ub Iwerks and other animators formed a company which would dominate animation for many years. Not only did the studio's animators produce finely drawn films, but they emphasized unique, specific characters and movement that revealed the characters' personalities. The Disney studio produced *Steamboat Willie* (1928), the first cartoon to synchronize sound with movement, and the short three-color Technicolor film *Flowers and Trees*, which won the first Oscar for animation in 1932. In 1938, *Snow White and the Seven Dwarfs,* the first American feature-length animated film, received a Special Academy Award for significant screen innovation. More than half-a-century later, the Walt Disney Company was still breaking new ground: 1991's *Beauty and the Beast* was nominated for Best Picture alongside four live-action films. In 1995, Disney released the Pixar Production *Toy Story*, the first feature-length computer-animated film which was honored by the Academy with a special award.

Animated and live-action films have in common such basic film devices as scripts, camera moves, close-ups and long shots. Unlike live-action filmmakers (at least until recently), animators can ignore the rules of physics and construct fantastic worlds. What ultimately separates animated and live-action techniques (though the two are often combined in the current age of computer-generated imagery) are the different ways they are put on film. In live-action films, the camera records an action in continuous time, as events unfold, although the film's editor may later change the continuity. In an animated film, however, it is the camera that creates the movement, frame by frame, and each step is carefully planned before filming begins.

Students can practice several animation techniques as well as demonstrate persistence of vision by making a flipbook. Review the animation terms for this activity. The beginning, middle and ending drawings of a flipbook are similar to what animators call "extremes" or "key frames" and the drawings that link them could be considered "in-betweens." By stacking index cards and using a metal clip to fasten them or by using a pad of paper, the student will make a simple type of registration system, similar to that used by animators to keep their drawings lined up properly. Each page is comparable to a frame of an animated film; flipping the pages is similar to the action of a projector.

Have the students begin their flipbooks by thinking of a visual they would like to animate. The action should have a beginning, middle and end. The image can be as simple as a growing flower or a circle that mutates into a square and then back into a circle, or as elaborate as the student's talent or interest allows. Using a pad of heavy paper (small sizes work better) or a stack of index cards, have your students draw their starting image in pencil at the bottom of the last page. They should draw at least 24 visuals, which is equal to one second of screen time, changing the drawing slightly on each page. If they like, they can color or shade their images. The more each drawing resembles the one preceding it, the smoother the action will appear when the book is flipped. Have your students remove every other image from their books and flip again, noting the difference. Ask them to discuss the ways in which a flipbook is similar to an animated film, using some of the criteria presented above.

If you have access to a DVD player that can freeze frames, show a sequence from a selected animated film to your students, advancing the action one frame at a time. Have the students identify the extremes of the sequence and consider the way the drawings progress from the beginning point to the ending point.
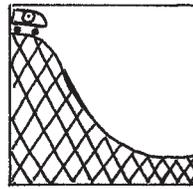
Activity Two
DRAWING MOVEMENT

The development of cel animation greatly simplified the animator's task. Working on transparent celluloid or acetate sheets called "cels" freed the animator from repeatedly drawing the same image and made it unnecessary to redraw background images. Separate elements of the drawing could be placed on individual cels and then assembled in layers of two or three for the camera. For example, if one scene showed only a moving arm, the animator might draw the body on one cel and each progressive arm movement on additional cels. Then the various movements could be inserted on the same body visual in subsequent scenes. Cels also enabled the animator to include more detail in the characters and background, as one drawing could be used multiple times without recopying.

PART A. As animated films have become longer and more elaborate, an assembly line of sorts has developed in the studios. Certain animators specialize in backgrounds, while others design and draw the extremes. "In-betweeners" then complete the numerous drawings that connect the two extremes. Other animators fill in the colors, clean up the drawings, and apply special effects such as fire, smoke, water, shadows and lighting.

The boxes on the activity sheet represent frames in an animated film. In the first row, the beginning and ending "extremes" of an action are shown. It takes planning to get to the right position at the right time. Thought, as well as imagination, is required to make something move in a believable way. To illustrate the process, have your students use the middle five boxes on that page to take the action from its beginning to its end. Check that the midpoint of the movement occurs in the middle box.

First box   **Middle box**   **Final box**

Next, in the second row, have your students complete the action shown in the first two boxes. Ask them to consider different ways of visualizing movement. For example, they might act out a possible sequence, or they might observe a similar action in real life. Have them change one element of the series and discuss how that change affects the outcome or the mood. Then have them add a special effect.


First box   **Second box**
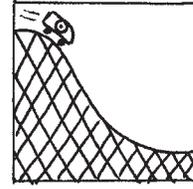
Have your students analyze the scene they have just drawn to determine how many different cels would be needed to film it. These might include a background cel, cels for the changing positions of the characters or objects, and a cel for a special effect such as weather, shadows or reflections. Ask them to consider what cels would have to be added or changed for the actions to take place and what cels would remain the same throughout the scene. Then have them make cels on sheets of acetate or tracing paper and experiment with exchanging them to create new scenes.

PART B. Like painters, animators use perspective and scale to create depth, and color to enhance mood, but most of the visual information in an animated film is transmitted through movement. Before animating a scene, animators study the way their subjects move, whether they are animals, people or leafy trees. Although the movements they draw are based on real life, animators often caricature or exaggerate both movement and design. Animated characters, like human actors, express themselves with gestures, mannerisms, posture and facial expressions as well as voice. A tilted head can indicate surprise. A body slanted forward suggests speed. A character freezes at a scary sound. Background movement also conveys meaning. The gentle flutter of leaves signals a breeze, but when the leaves toss and turn, it could mean a storm is coming.

Animators use the term "squash and stretch" to describe the effect of gravity on living creatures and pliable material. Racing after the Road Runner, Wile E. Coyote flies off a cliff and plummets downward. His body smashes into the ground (squash) and then elongates into a bounce (stretch). In this instance, the deformation is used for comic effect, but in more realistic situations squash and stretch lend weight to characters and make expressions such as smiles or frowns convincing.
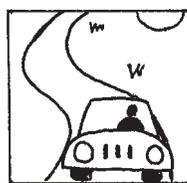
Choosing the right look for a character is important for creating its personality. A "cute" character might be drawn with characteristics that resemble a human baby's,
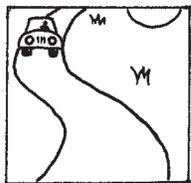
such as a large head, small body, high forehead, big eyes and short, plump arms and legs. A bully, on the other hand, might have a small head, a thick or nonexistent neck, a big chest, and short legs. Exaggerated features and a quirky posture could indicate a comic character. The animator can also use these traits to ridicule stereotypes. The mutant toys in *Toy Story*, for example, turn out to be selfless and helpful, not dangerous as they first seem to be. Handsome Gaston in *Beauty and the Beast* is also egotistical and mean.

Discuss with your students what animator Norman McClaren meant by the statement, "Animation is not the art of drawings-that-move but rather the art of movements-that-are-drawn." Have them think of an emotion such as anger, fear, happiness or surprise and act it out in front of a mirror or the class. Ask them to describe the facial and body movements that communicated the emotion and explain why some people consider an animator the actor of an animated film.

Supplementary Activity:

Show your students an animated sequence and ask them to describe the characters' personalities and list the ways in which they are revealed. Some suggestions are: the opening sequence of *Spirited Away*, the scene in which the chickens plot their escape in *Chicken Run,* and the short *Luxo Jr.* You might also have your students compare the enchanted objects in *Beauty and the Beast* with their human manifestations. How do the animators give the same personality to each?

Activity Three
IMAGINING ACTION

Cel animation is the most familiar type of animation, but a good animator can bring clay models, sand, paper, puppets or pins to life. Shapes or figures are cut out and photographed against a backlight for silhouette animation or arranged and shot from above to create collage animation. A more three-dimensional effect can be achieved by using stop-motion photography to animate models or clay.

In the two types of animation called "time-lapse photography" and "pixilation," a camera is set to snap one frame at regular intervals. Time-lapse compresses time, reducing the blooming of a flower, for instance, to a few seconds of screen time. Pixilation works in a similar manner, but with actors performing in real time. When the film is played back, the action appears jerky, something like an old silent movie when it is projected at sound speed.

Animated films can also be made by drawing or scratching directly on the film, painting scenes on glass, moving thousands of wire-thin black pins on a white pinboard or even by using the photocopying machine.

No matter what the material, each step of an animated film is worked out beforehand on a storyboard, which is simply a film in outline form, using sketches, small drawings and captions. Since every second of a typical animated film involves 12 to 24 changes (over 50,000 visuals for a 70-minute film), it is too expensive and time-consuming to complete an entire animation sequence and then scrap it. Even if the animator is not telling a story but has an abstract design in mind, he or she plans in detail the progression of images and how they can be combined to achieve the desired effect on the audience. The storyboard is an indispensable tool for the animator and is revised often.

Comic strips, with their captions, close-ups and long-shots and visual storytelling techniques, are similar to storyboards and can help your students understand the format. Encourage them to study comic strips or graphic novels to learn the components of visual storytelling. Discuss the way pacing, dialogue, color, line, shape and composition create moods and emotion and consider the way movement is depicted in a still drawing. Then have students storyboard the key moments in a sequence from one of their own stories or from a selected animated film, using some of the techniques they have studied.

Supplementary Activity:

Show students a sequence or short film made without the use of cels. Some suggestions from the list at the beginning of this teacher's guide are *Crac!* (pastel-on-paper drawings), *Closed Mondays*, *Creature Comforts*, *A Close Shave*, and *Chicken Run* (all four done in clay), *The Street* (washes of watercolor and ink), *The Sand Castle* (sand), *Mindscape* (pinboard), *Neighbours* (pixilation) and *Pas de Deux* (optical printing). Have them create a short animated film using an alternative medium like one of the above or by using puppets, dolls, silhouettes, shadows or construction paper.

Activity Four
LEARNING *from the* BEST

Using Computer Generated Imagery (CGI), an animator can reproduce the three-dimensional effects of stop-motion photography or the two-dimensional effects of hand-drawn animation. Instead of pen and ink, paint, clay, paper or cels, computer animators use a screen, a mouse, hardware and software and mathematical formulas. Rather than sketching out characters and objects like traditional animators, computer animators build a three-dimensional "model" that can be viewed from different angles. This model can be displayed as a "wireframe," which looks like wires, in "polys" mode, similar to videogame graphics, or "anim rendered," a more polished representation. CGI can imitate camera moves and angles that would be difficult or impossible to achieve with traditional cel animation: the swoop from the chandelier to the dancing couple in the ballroom scene of *Beauty and the Beast,* for example. Because of its ability

to mimic reality, CGI is also used to produce special effects in live-action films. CGI can create digital tears or blood, embellish backgrounds and sets, make a small crowd seem large, or touch up the actors' wrinkles and flaws.

The 1982 film *Tron,* which combined live-action with animation, was the first film to use CGI on a large scale. Early computer graphics looked unappealingly flat, but recent improvements in technology such as "bump maps" create more realistic surfaces. When the Academy instituted the Best Animated Feature Film award in 2001, it was captured by the CGI-animated film *Shrek.*

Computer animators still have trouble duplicating soft shapes and textures such as human skin and hair and the movement of clothes and draperies. The most difficult task facing the special effects animators who created Gollum for the live-action film *The Lord of the Rings: The Two Towers* was developing new computer codes to provide the creature with translucent, lifelike skin.

Use of the computer does not necessarily mean less work for the animator. It took four years to complete *Toy Story,* the first completely CGI-animated feature; coincidentally, it took the same amount of time for the Disney studio to finish *Snow White and the Seven Dwarfs.* CGI may never completely replace traditional animation, because some animators still prefer the latter's personal touch and slight irregularities. For others, using CGI can be compared to using the computer instead of a typewriter for writing, in that the new tool allows the animator to manipulate ideas and images with greater freedom.

Part A. Have your students compare hand-drawn or stop-motion animation to CGI animation, using selections from these films: *Snow White and the Seven Dwarfs*, *Alice in Wonderland*, *Lilo & Stitch* and *Fantasia* employ hand-drawn cel animation. *Chicken Run* and *The Nightmare before Christmas* are three-dimensional films made using stop-motion photography. *Toy Story* and *Shrek* are CGI animations. Most of *Beauty and the Beast* was drawn on cels, but the ballroom scene is a good example of early computer animation. CGI was used to create the stampede scene in *The Lion King*, an otherwise hand-drawn film. Ask your students if they notice differences between CGI and traditional animation. Have them consider why animators might choose a traditional method of animation if CGI animation can duplicate traditional effects.

Part B. Each year, an outstanding array of new animated films is released. Some are especially appropriate for families, some are appealing to teens, and some are geared toward adult audiences. If you or the parents of your students feel that some, or even all of this year's nominated films might be inappropriate for viewing by young people, you can modify this activity. Students can view Academy Award-nominated and award-winning films from past years to complete the exercises. A list of films that won Academy Awards for animation appears at the beginning of this teacher's guide.

Ask your students to view one of the films nominated this year for achievement in animation and analyze it in terms of how its storytelling, character development and animation contributed to the total effect of the film.

ACADEMY OF MOTION PICTURE ARTS AND SCIENCES

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The ORIGINS of ANIMATION

The earliest animation used mechanical devices such as the praxinoscope, the thaumatrope and the zoetrope instead of film. After the invention of the movie camera, filmmakers like Parisian magician Georges Méliès and American J. Stuart Blackton mixed animation with live-action film for magical effect. In 1906, Blackton made the first completely hand-drawn animated film, *Humorous Phases of Funny Faces*. By 1914, Raoul Barré had built the first studio devoted to animated films. Winsor McCay took animation a step further with the creation of *Gertie the Dinosaur*. He became one of the first animators to use a distinctive style of movement to express an animated character's personality. Then, in 1922, a group of animators headed by Walt Disney opened a studio in California that would influence animated filmmaking for decades, producing such works as *Steamboat Willie* (1928), *Flowers and Trees*—which won the first Oscar for animation in 1932— *Snow White and the Seven Dwarfs* (1938), *Beauty and the Beast* (1991) and *The Lion King* (1994).

All animation, whether mechanical or on film, works because when watching a quickly moving sequence of still images, the human eye retains each picture for just a moment after it disappears, which blends the images together. This is called "persistence of vision." Animated films are assembled one "frame" at a time, each frame or exposure representing a tiny change in the character or scene being animated. When the film is projected, the drawings appear to move. For traditional movies, 24 frames add up to one second of viewing time when projected.
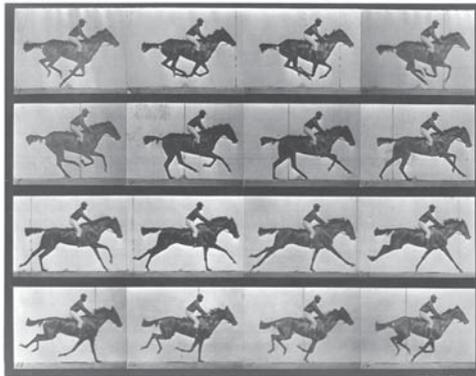
Eadweard Muybridge Motion Study Circa 1872
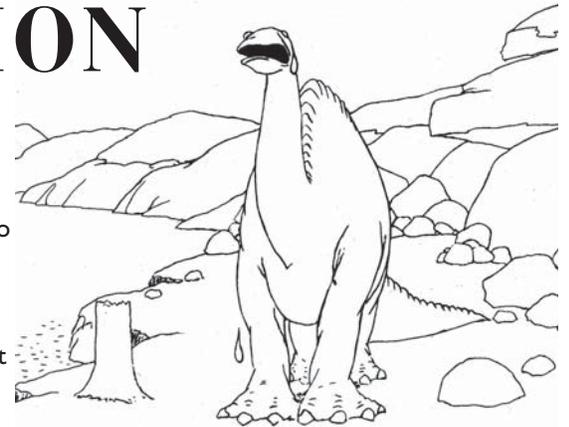
Gertie the Dinosaur (1914)

Think of an object or action you would like to animate. Begin your flipbook by drawing the first image on the last page of a pad of paper or a stack of index cards. On the next page, trace over the drawing, changing it slightly each time until you have completed at least 24 pages. Think of each page as a frame of film. When you have completed the drawings, you can darken the lines with black ink, and color or shade the figures. Hold the book together at the top and flip the pages from back to front to see your image move.

What happens when you flip the pages slowly?

_____

How does the movement change when you remove some of the pages?

_____

_____

What happens if you mix up the pages?

_____

_____

_____

How is your flipbook similar to an animated film?

_____

BASIC ANIMATION TERMS

FRAME: One exposure on the filmstrip. There are sixteen frames to each foot of film and twenty-four frames to each second of running time on the screen.

LIVE ACTION: A motion picture of real people and things.

PERSISTENCE OF VISION: The illusion of movement created when a series of still pictures flashes by in rapid succession.

PRAXINOSCOPE: An early animation device similar to a zoetrope but using mirrors instead of slits.

REGISTRATION: Any system that holds the drawings, cels, or frames in place. In a flipbook, the binding of a pad of paper or the clip that holds a stack of index cards resembles the pegs used by an animator to keep drawings lined-up.

ROTOSCOPE: A tool that enables an animator to trace live-action footage frame by frame.

THAUMATROPE: A flat disk with a different drawing on each side. When the disk is rotated, the drawings appear to combine. The most common example has a bird on one side and a cage on the other.

ZOETROPE: A hollow cylinder containing a strip of paper with sequential images. When the cylinder is spun, images seen through regularly placed slits seem to move.

DRAWING MOVEMENT

Until 1914, when Earl Hurd patented "cels" (transparent sheets of celluloid or acetate), animators limited themselves to simple line drawings (like those depicting *Gertie the Dinosaur*). Without cels, the entire scene, including the background, had to be redrawn every time a character or object moved. Using cels, each part of the scene could be drawn separately. For example, when a character's arm moved, the animator would draw several cels with different arm movements and exchange them as necessary, and the same background drawing could be used multiple times. The thin cels were layered in stacks of three or four and, to the camera, the images looked as if they were drawn on the same page.

PART A. The beginning and ending drawings of the flipbook you made in **Activity One** are similar to what animators call "extremes" or "key frames." The drawings that connect the extremes are known as "in-betweens." In the five boxes below, draw or sketch the in-betweens. If you have trouble completing the action, act it out in front of a mirror. Try to make the action as lively as possible.

What happens in the scene? _____
_____

Does the action move quickly or slowly? _____

How does the speed of the action affect the mood of the scene?
_____

Every action in an animated film contributes to the story. By changing an action, the animator changes the story. Imagine a character walking down the street with his head in a book. If he bumps into a girl, he might anger her, or they might share a laugh. If he avoids her without looking up, the end result would be completely different. The images in the first two boxes below show the beginning of an action. Complete the action in the next five boxes.

Now change one of the frames in the scene. How does this affect the rest of the scene? _____

What is the mood or atmosphere of the scene? _____
_____

Add a special effect such as weather, reflections or shadows. How does this change the outcome of the story or its effect on the audience?
_____

PART B. Animator Norman McClaren said that "animation is not the art of drawings-that-move, but rather the art of movements-that-are-drawn." Consider a scene set in a forest. Each animal moves differently, from the awkward steps of a young deer to the energetic hops of a cheerful rabbit. The gentle rustle of the leaves on the trees tells us it is a fine day. A stream winds beneath the trees, breaking slightly on the rocks under the surface. What mood does the scene convey? _____
_____

Imagine that something dangerous approaches. How would that be reflected in the movements of the characters and their surroundings?
_____
_____

Think of an emotion such as fear, surprise or happiness and act it out in front of a mirror. What facial expressions did you use? _____
_____

How did your body move? _____
_____

What do you think McClaren meant by his statement?
_____

Why do you think animators are called the "actors" of an animated film? _____
_____

CEL ANIMATION TERMS

CEL: A clear piece of celluloid or acetate .005 of an inch thick on which animation drawings are traced or photocopied.

EXTREMES: The beginning and ending of an animated action, also called "Key Frames" in computer graphics animation.

IN-BETWEENS: The drawings that take an action from one extreme point to another.

SCENE: A new angle in an animated film.

SEQUENCE: A collection of individual scenes that tell a specific part of the story.

SPECIAL EFFECT: Any added effect such as weather, shadows, reflections or the like, that gives depth and dimension to the animated drawings.

SQUASH AND STRETCH: Two opposing distortions of an animated object that help create expression and speed of motion in animation.

IMAGINING ACTION

Cartoons are the most familiar kind of animation, but an animator is not limited to drawn images. Paper, sand, glass, pins, clay models and puppets are some of the materials animators have used to make films. Just about anything that can be shifted, scattered, cut, rotated or molded can be animated. Silhouette, collage and other forms of two-dimensional animations are lighted from below or above for different results. Animators of three-dimensional models and puppets use a stop-motion camera, which may expose just one frame for each change in position. Pixilation and time-lapse photography speed up passing time for a comical or surreal effect. Materials for animated films are limited only by your imagination.

All animated films, however, start with a storyboard, which looks something like a comic strip. A storyboard is essentially a visual outline of a film. It helps the animator plan the film's action and indicates color schemes, style, framing and sometimes dialogue as well. Using the storyboard, animators can discover any potential problems before they begin to create the film.

Choose a comic strip from the Sunday newspaper, or a short scene from a graphic novel or a comic book. Study the use of color, the different sizes of the images and the way the visuals advance the story.

What happens in the scene?

_____

Describe the way the artist creates a sense of movement.

_____
_____

What techniques does the artist use to develop mood and emotion?

_____
_____

Now, invent a simple story of your own. Identify its key moments. On a separate piece of paper, note the moments with a rough sketch and a caption or phrase. Then arrange the key moments in order in boxes like those in **Activity Two**.

Title of film_____

What happens in the sequence?_____
_____
_____

Are the characters humans, animals, appliances, kids, adults? How will this influence the story?

_____
_____

Which frames are in close-up and which ones are seen from a distance?

_____
_____

Why?

_____
_____

Indicate them on your storyboard.

How does the action flow from one key moment to another?

_____
_____

Is the information clearly presented?

_____
_____

Where does the story take place?

_____
_____

Do your backgrounds make that clear?

_____
_____

Who is the most important character in the sequence? How does a viewer know that?

_____
_____

STORYBOARD TERMS
KEY MOMENT: The major points of a sequence, both of action and story development.
STORYBOARD: Small drawings and captions arranged in chronological order that show the action of the film step by step and help the animator plan the film's structure.

LEARNING *from the* BEST

Instead of pen and ink, animators working with Computer Generated Images (CGI) use a mouse, mathematical formulas and computer hardware and software. Rather than sketching out characters and objects like traditional animators, computer animators build a three-dimensional "model" that can be viewed from different angles. CGI was first used to create special effects in live-action films and to make short animated films, cartoons and commercials. *Toy Story* (1995) was the first full-length, totally computer-animated film. Early computer animation was sometimes criticized for looking crude or lifeless, but technical advances such as "bump maps," which add real-looking irregularities to smooth surfaces, make contemporary CGI animation more convincing. Using CGI, animators can reproduce the look of most traditional animation. *Toy Story*, for example, looks very similar to stop-motion puppet animation, *South Park* uses software to simulate paper cutouts while *The Lion King* combines CGI and hand-drawn animation.
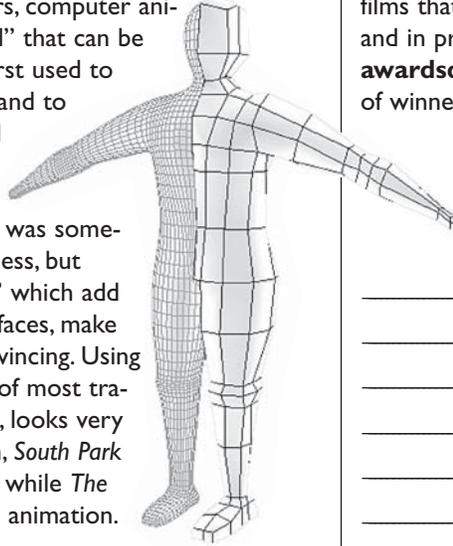
Computer-Generated Image Model

COMPUTER ANIMATION TERMS

BUMP MAPS: Computer software that adds realistic texture to an animated object by creating small, light-reflecting bumps on its surface.

COMPUTER GENERATED IMAGERY (CGI): Screen images that are animated using mathematical formulas and computers.

MODEL: A three-dimensional virtual character created on the computer, which can be viewed from various angles.

PART A. View the sequences your teacher has chosen.
Titles of films

_____

_____

What differences do you notice between traditional animation and CGI animation?

_____

Which do you prefer and why? _____

_____

Why might animators choose to use traditional methods and materials if they are able to get similar results using CGI?

_____

_____

_____

PART B. In the previous activities, we learned that the animator's job is to create rather than record the illusion of movement. Now it's time to look at the films that were nominated for animation this year and in previous years. Go to **www.oscars.org/awardsdatabase/index.html** to find a complete list of winners and nominees.

List the 2003 nominees for Best Animated Feature Film and Best Animated Short Films

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Pick one film that you would like to see from the list of nominated films or another film that was recognized for achievement in animation in a previous year. As you watch the film, consider some of the guidelines that the members of the Academy follow when making their award selections.

• Is the storytelling clear and focused?
• Are the characters well-developed and believable?
• Is the animation well-executed?
• Does the animation style enhance the story?
• Is the pacing smooth?

After viewing the film, and on the back of this sheet, describe why you think the film won the award or was nominated. Put yourself in the shoes of an Academy member. Using what you know about each of this year's nominated films—either from seeing them or reading about them—predict how the professional filmmakers in the Academy will vote.