

Arts and Communication

ACTION! MAKING VIDEOS AND MOVIES

Member Guide

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Motion Pictures

The *Motion* in Motion Pictures

“Motion” pictures are what you see on movie screens and on TV screens. Whether your camera uses video tape, digital video or movie film, the same techniques apply. To keep things simple, this manual sometimes refers to “videos,” but you can substitute “movies” if you are using a movie camera and film.

Motion makes videos and movies unique and life-like. Life is filled with action, and only “motion pictures” allow you to bring that action to the screen.

It’s important to remember that the action you want to show is motion of the subject — *not* the camera. Most beginners move the camera too much. Don’t do it. Use your camera like a still camera; frame the scene, leave enough room for the action to take place, then hold the camera *still*.

Try this test. Make a video “tour” of your yard two different ways. For the first “tour,” move the camera for every shot. Then repeat the same “tour,” holding the camera still for every shot.

After your video “tour,” make two versions of a two-minute sequence of an action subject. The subject might be a pet, a sports event or a friend involved in an activity. Try the same test, shooting one sequence without moving the camera, then another sequence moving the camera for every shot.

Watch the results. See if you agree that too much camera motion is distracting.

A new way to watch TV

You can learn a lot about making videos and movies by watching TV in a new way. Turn the sound off. Now watch the pictures. Think about how the pictures were taken.

- How close is the camera to the subject?
- How long does each shot run?
- Does the camera move?
- How is each shot different from the one before?
- Most important, how do the pictures work together to tell a story?

The *Pictures* in Motion Pictures

“Motion” pictures are actually a series of individual still pictures or “frames” linked together. These frames are projected at high speed to create the appearance of smooth motion.

In many ways, making “motion” pictures is like taking any kind of picture. You need these basic tools:

- camera with a lens
- movie film, video tape or digital video
- and light.

Film is always loaded inside the camera because it is going to be carefully exposed by light. A video camera changes light into electrical signals. Video tape can be loaded inside the camera or in a separate video recorder that is connected to the camera with a wire.

Image 1: The *action* begins now! Turn to the last page in this book, where these pictures are repeated. Discover a simple way to make your first “motion picture” — without a camera.



Proper exposure* and sharp focus on the subject are basic requirements for all good pictures. Most cameras control exposure automatically, and many will focus themselves. Be sure you know how your camera handles exposure and focus.

The same techniques that make better photographs will make better videos, too.

- Simple, clear framing*
- Close-ups
- Eye-catching composition* and viewpoints
- Interesting lighting on the subject
- Interesting subjects

Storytelling

In Image 2, you see a graphic that shows:

- frames (single “pictures”)
- scenes (a camera “shot” from start to stop or an edited shot)
- sequences (two or more scenes of the same activity)

You have seen how the illusion of motion is produced when many frames are linked in a scene. When scenes are linked in a sequence, the viewer sees a story.

In Image 2, the story on the left is different from the story on the right. The ice cream cone makes the person happy in one story and sad in the other (maybe he’s on a diet). The scenes are the same in both stories. Only the sequences differ.

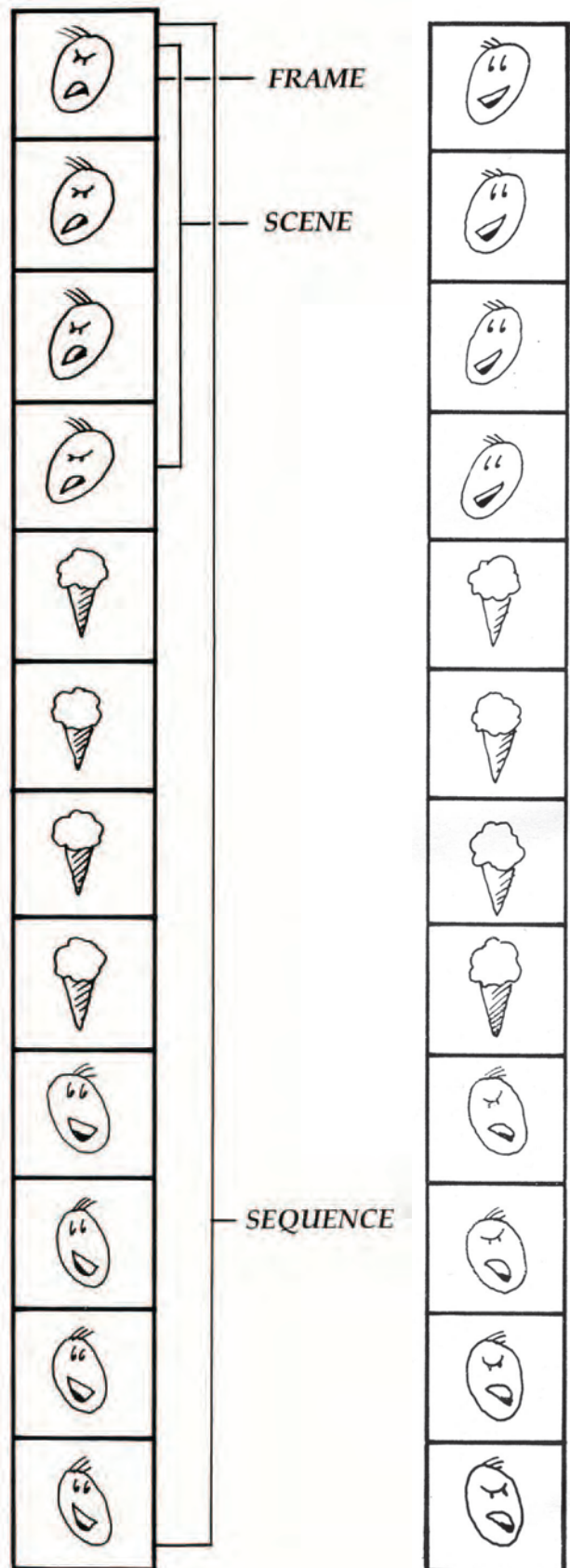
Sequences are powerful tools for storytelling. You create a sequence every time you start shooting a new scene, so it’s important to think about what makes a good story. Usually, a good story:

- makes sense to the audience
- has a beginning, middle and end
- keeps the audience interested.

How do Hollywood filmmakers tell their stories? They often use the sequence you see in Image 3 — a wide shot, medium shot and close-up. It makes sense to the audience by answering these questions:

- Where are we?
- What’s the main subject?
- What’s the subject doing?

Image 2: Two Different Stories.

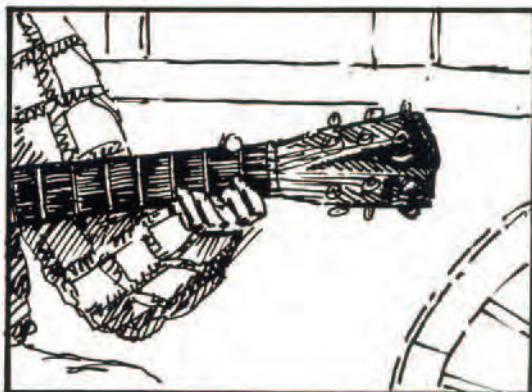


A *wide shot* gives an overall view of the subject and setting. It helps the audience understand where the action takes place and how the subject relates to the setting.

A *medium shot* brings the audience closer to the action. The main subject usually fills the frame.

Close-ups satisfy the audience's natural curiosity to see the main action clearly. This sequence could continue with other close-ups to add interest — a strumming hand, a face singing, a foot tapping.

Image 3: Wide shot, Medium shot and Close-up.



Try it! Pick a subject and put storytelling technique to use.

Editing As You Plan and Shoot

Scene Length

How long should each scene be on the screen? The answer is “only as long as it takes to make your point and capture the action.” Most scenes last from three to 12 seconds. The closer your camera is to the subject, the shorter the scene can be. Close-ups show a small part of the subject or setting very clearly and quickly.

Pacing

A fast-paced sequence of short scenes is usually more interesting to watch than a slow-paced sequence of long scenes. You control pacing by varying the scene lengths. A fast pace communicates action, energy and excitement. A slow pace is preferable for establishing scenes. Try to vary pacing as you tell your story.

Continuity

Remember that your story should flow continuously from one scene to the next, even though you turn the camera off between scenes. Imagine what would happen if a person in the scene changes clothes when the camera is turned off. When the audience sees the edited story, it won't make sense.

Planning

Planning means thinking ahead. The easiest and most economical way to produce a good story is to plan before you do any shooting.

Then you can control the sequence of shots and edit your story as you shoot.

You can use planning cards to organize or “storyboard” your video. 3 x 5-inch file cards make good planning cards, or you can cut up a sheet of paper.

Each card represents one scene. Scenes are arranged in sequences. You can rearrange the cards to determine the best order.

When you are satisfied with the order, number the cards. Each card should include a simple sketch and the information you need to shoot that scene.



Silent Picture Project

Can you tell a story without words? When you finish this project, the answer will be *yes!* Choose a simple subject for your story. It can be as simple as how to make a peanut butter sandwich. Plan the story using the tips on pg. 4. Keep it short (one or two minutes). Shoot it, then view it without sound. Ask yourself whether it's a good story, as defined on pp. 3-4.

Cutaways

A "cutaway" is a scene that is not part of the action. Cutaways are powerful tools for storytelling. You can use cutaways to compress or lengthen time. For example, you could show one scene of a person sleeping, then a cutaway of an alarm clock, then finally a scene of the person eating breakfast. In this example, time would be compressed. The alarm clock makes the point: "It's time to get up!"

After the alarm clock cutaway, the breakfast scene makes sense, without having to show the person waking, getting dressed, walking downstairs, setting the table, and so on.

Matching Action

If scenes are supposed to show continuous action, the sequence should match the natural flow of that action. This can be a challenge, because you interrupt the action every time you turn the camera off.

Planning allows you to control the action in your story. Always remember to ask yourself: Will this sequence make sense to the audience? For example, you could start with an opening scene showing a person making the first carvings on a pumpkin as it evolves into a jack o'lantern. If you show the finished product in the middle of your sequence, instead of at the end, the flow of the action would be unnatural.

When you can't control the action (at a sports event, for example), you can use cutaways (a scoreboard or a cheering fan) as a bridge between scenes of mismatched action.

Cutaways help you avoid "jump cuts," where the subject suddenly jumps to a new position in a way that confuses the audience.

Screen Direction

The direction that things move on the screen can tell a story.

If a story is meant to be "going to school," for example, then the action should move the same direction in both scenes, that is, people should be going *into* the school, not out.

Lighting

Outdoors

Getting bright, sharp pictures outdoors in daylight is easy. Use frontlighting or sidelighting on your subject for best results. Try to avoid harsh shadows. Try not to mix bright and dark areas or sunshine and shade in the same scene.

Backlighting creates problems, especially with video and digital cameras. If the sun or a very bright background is behind your subject, cameras with automatic exposure will adjust for the bright area and make the subject a dark silhouette. To avoid this, move the subject or yourself to eliminate backlighting. (See Image 4.)

Indoors

Normal indoor lighting is all you need with today's cameras and materials. Be aware, however, that more light will give you brighter, sharper-looking results. Whenever possible, turn on every available light to maximize your illumination and consider using a portable light.

Image 4: Outdoor frontlight and backlight.



Camera Handling

Before You Begin

The first step is to read the instructions for operating your camera. Be sure you understand:

- how to use the basic controls
- how to care for your camera and lens

Handholding

Most cameras are designed to be handheld. It is essential to hold the camera level and steady. A shaky camera makes shaky pictures which are distracting to watch.

Framing

When you frame the scene, allow enough room to see the action without moving the camera. Then hold the camera steady and let the action happen within the frame.

You can pan* or zoom* occasionally — but only to follow action. Movements that follow the action become “invisible” to an audience.

Where's the motion?

Remember: what's “moving” should be the subject of your pictures, not the camera! Never pan or zoom to add interest. Use editing techniques and different camera angles to add interest.

Visual Variety

Lenses

Most cameras have a zoom lens. With a zoom lens, you have many lenses in one — from wide angle to telephoto. You can choose the ideal lens position to frame the action.

Focus becomes more critical as you move in to the telephoto position. If your camera focuses manually, zoom in to the telephoto position (without starting the camera) to focus on the subject before you zoom back to frame the subject.

After focusing, you can zoom back to frame the subject and start shooting.

Camera Angles

Changing camera angles adds interest. Zooming the lens does not change the camera angle.

To change angle, you have to move yourself and the camera to a different position. Try to change angles between each scene.

Panning and Tilting

Panning is moving the camera in an arc to follow the action.

Tilting is moving the camera up or down to follow the action.

Pan or tilt the camera only when it's necessary to follow the action in a single shot.

A story about a bicycle trip would probably include some panning. Remember, though, you can also let the subject move out of the frame, then cut to close-up or a different angle. (See Image 5.)

Image 5: Cut to panning and/or close-ups.



Make your pans and tilts *slow* and *smooth*. It's impossible to move the camera too slowly! Moving too fast, however, is a very common problem. Try to keep a moving subject centered in the viewfinder as you move the camera.

Zooming

With a zoom lens, you can zoom in from a wide to a close frame (or zoom out from close to wide) while the camera runs.

Zooming should be done rarely, and primarily to show more of the action. Make your zooms *slow* and *smooth*.

Titles

For a professional touch, you can add titles to your video or movie. Titles can be made with paints, markers, crayons, alphabet blocks, chalk and a blackboard, or any other material.

How long should a title appear? As a rule of thumb, a title should stay on the screen about twice as long as it takes to read the words. Read the title to yourself as you shoot it.

When you plan, try to think of ready-made titles you can use. You may want to use a birthday cake, a graduation program, or a large sign installed on a building or entrance.

Sound

Natural Sound

The built-in microphone on many video cameras will record natural sound as the camera runs.

Be sure you listen to sounds as closely as you look at the scene. Do you hear unwanted sounds (for example, a loud truck driving by)? If so, wait for it to go away or move to a quiet place before you shoot.

Jumpy sound editing is as distracting as jerky pictures. You may need to continue a scene until the sound reaches a natural end. If cheerleaders are heard in the background, for example, let the scene run until it reaches a natural break.

Think about sound when you plan. If you plan to shoot a sports event from the bleachers, you know that crowd noises will be heard in the background.

If you show the crowd once, early in your video, these sounds will make sense. If you don't show the crowd, the sounds may seem confusing. (See Image 6.)

Controlled Sound

Interviews are one example of controlled sound. A movie about a holiday or birthday may include a brief interview with someone who has received a gift. Plan your questions before you start shooting. Keep it brief! For good quality sound, keep the microphone as close to the person speaking as possible.

Sound can help tell your story. One approach is to have a person narrate your video. This person can appear in the scene ("on camera") for some shots.

For other shots, the person can speak from a position out of the scene ("off camera"). Try to keep the person's distance from the microphone the same.

Controlling sound takes practice and planning. Try this activity. Make a two-minute sound video on a simple subject, such as washing dishes or using a hammer. Write a script for your "star" to narrate and plan your production. Include at least 10 scenes, some with the narrator "on camera," and some with the narrator "off-camera."

Image 6: Show the crowd to explain background noise.



Showing Your Production

Video tapes can be re-used. There is a way to prevent re-recording, however.

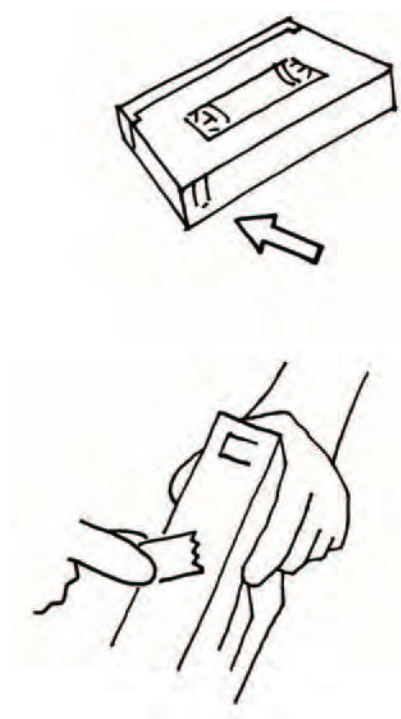
To protect the video tapes you want to save, you can knock out the safety tab on the back of the cassette to prevent re-recording.

If you change your mind, you can block the hole with adhesive tape and re-use the cassette. (See Image 7.)

Before an audience sees your finished video, watch it yourself. Use the form below to evaluate your results.

Now, you are ready to show your production! Ask your audience for their “reviews.” Did they enjoy watching your video? How can you improve your next production?

Image 7: Cassettes can be re-used after the safety tab has been removed by taping over the hole.



Reviewing Your Production

	GOOD	FAIR	POOR	NOTES
STORY				
A clear story				
A story with beginning, middle, end				
An interesting story				
Length				
Pacing				
Variety of scenes				
PICTURES				
Steadiness				
Focus				
Lighting and exposure				
Scene length				
Camera movement				
Camera angles and composition				
Use of wide shots				
Use of medium shots				
Use of close-ups				
Action subjects				
SOUND				
Use of sound				
Level (loudness)				
Background				
Sound editing and transitions				



GLOSSARY

ANIMATION: making still objects appear to move on the screen by making small changes in the subject from frame to frame.

APERTURE: see Lens Opening.

AUDIO: sound signal. The audio level setting determines how loud the sound will be.

AUTOMATIC GAIN CONTROL: adjusts video picture brightness and contrast automatically.

CAMCORDER (CAMera-reCORDER): a video camera with a built-in cassette recorder. Other video cameras use a recorder which is a separate unit connected to the camera with a cord.

CAMERA ANGLE: the position of the camera relative to the subject. Angles can be high, low, left, right or straight-on.

CLOSE-UP SHOT: a shot in which a relatively small part of the subject fills the frame.

COMPOSITION: the visual arrangement of everything contained within the frame.

CONTINUITY: a logical flow of scenes without jarring changes that confuse the audience.

CUT: a sharp, immediate transition from one scene to another.

CUTAWAY: a scene which is related to the action in a sequence but is not a part of the action. An example is a shot of cheering fans at a sports event. Cutaways are very useful in editing and storytelling.

DISSOLVE: a visual effect, used for transitions, in which one scene fades out as a new scene fades in over the first one.

EDITING: the process of selecting scenes to be used in the production. By pre-planning the length and order of your scenes, you can edit as you shoot. Editing after you shoot is much more complex and requires additional equipment.

EP (Extra Play), ELP (Extra Long Play), or SLP (Super Long Play): the slowest speed setting on VCRs for recording and playback. It provides lower quality than other speeds, but more time per cassette. A standard "T-120" length video cassette will run six hours at this setting.

ESTABLISHING SHOT: see Wide Shot.

EXPOSURE: the amount of light used to record the picture. Overexposed pictures appear too light. Underexposed pictures appear too dark.

f/NUMBER: the number used to indicate the size of the lens opening on most cameras. Common f/numbers are f/2.8, f/4, f/5.6, f/8, f/11, and f/16. The larger the f/number, the smaller the lens opening. In this series, f/2.8 is the largest lens opening, and f/16 is the smallest.

FADE: a gradual darkening (fade out) or lightening (fade in) of a scene's exposure. Fades are often used to begin and end a story. They are sometimes used as transitions to suggest a long time interval between sequences.

FIXED-FOCUS LENS: a lens that has been focused in a fixed position by the manufacturer. The user does not have to set the focus with this type of lens.

FORMAT: the physical type of video tape or movie film. Whether you use video tape or film, the format of your camera, tape or film, and VCR or projector must match. This chart shows common formats and their use.

	FORMAT	USE
V	8mm	Amateur video taping
I	VHS (1/2")	Amateur video taping (most widely used)
D	Betamax	Amateur video taping
E	3/4"	Commercial and industrial video taping
0	1"	Television broadcasting (high quality)
	2"	Television broadcasting (extremely high quality)
F	8mm	Amateur films (no longer used)
I	Super 8 mm	Amateur films (sometimes used)
L	16mm	Commercial and industrial films
M	35mm	Entertainment films

VHS = Video Home System

mm = millimeter

FRAME: one individual picture on a strip of movie film or video tape. On video tape, each frame lasts 1/30th of a second and is made up of 525 scanning lines.



FRAMES PER SECOND: in movies, the number of frames exposed in the camera or shown by a projector each second.

FRAMING: see Composition.

FREEZE FRAME (Still Frame): a control on some VCRs which allows you to stop the tape and hold a single frame on the screen. Don't freeze frames for more than a few minutes or you may damage the tape and VCR.

JUMP CUT: a cut in which the subject suddenly jumps to a new position in a way that confuses the audience.

LENS OPENING (or Aperture): the opening in a lens system through which light passes, usually calibrated in f/numbers marked on the lens. It determines exposure in combination with shutter speed (and film speed).

LIGHTING: the illumination falling on a subject, particularly the direction or control of that illumination.

LOCATION: a place where shooting takes place.

LONG SHOT: see Wide Shot.

LP (Long Play): a speed setting on VCRs for the medium quality recording and playback. A standard "T-120" length video cassette will run four hours at this setting.

MEDIUM SHOT: a shot made about halfway between a long shot and a close-up shot which simulates normal viewing distance.

NORMAL LENS: a lens with a wider angle of view than a telephoto lens and a narrower angle of view than a wide-angle lens. The image appears in a field of view and perspective similar to your normal vision.

PACING: the "tempo" of a sequence or entire production. Pacing is determined by scene length. A sequence of short scenes creates a fast pace, which suggests excitement and energy.

PANNING: moving the camera horizontally from a fixed camera position. Panning should be used sparingly.

PARALLAX: the difference between what's seen through the viewfinder and the scene taken through the lens. When the camera is very close to the subject, this difference in field of view can require a "best guess" adjustment to position the subject in the frame. This difference is eliminated with

cameras that allow you to view the scene through the same lens which takes the picture.

REFLECTOR: any device used to reflect light onto a subject. A reflector is often used to soften harsh shadows.

SCENE: a single run of the camera. The same as a "shot."

SCENE LENGTH: the length of time that a scene is on the screen. Typical scenes last anywhere from three to four seconds up to 10 to 13 seconds.

SEQUENCE: a series of related scenes that usually are made at one location.

SHOT: a single run of the camera. The same as a "scene."

SHUTTER SPEED: the length of time that the shutter is open. It determines exposure in combination with the lens opening (and film speed).

SP (Standard Play): the fastest speed setting on VCRs for the highest quality recording and playback. A standard "T-120" length video cassette will run two hours at this setting.

SPLICER: a mechanical device used to join two pieces of film or video tape together. Splicers are used to edit film (and, rarely, to repair damaged video tape).

STORY BOARD: a single sketch or series of sketches of scenes with notes used to plan how a movie or video should be shot.

TELEPHOTO LENS: a lens that makes the subject appear larger than a normal lens does. It has a narrow angle of view.

TILTING: moving the camera up or down from a fixed camera position.

TITLE: words that appear on the screen to show the name of the production, the location or other information.

TRACKING: an adjustment on VCRs which eliminates distracting visual "bands" and produces a clear, stable picture.

TRIPOD: a three-legged supporting stand used to hold the camera steady.

TUNGSTEN LIGHT: light from regular room lamps and home ceiling fixtures (different from fluorescent lamps).



VCR (Video Cassette Recorder): a video tape recorder and playback machine for video cassettes.

VIDEO: picture signal. The video signal can be adjusted for brightness and/or contrast on many video cameras.

VIDEO DISC: a format for playing back prerecorded motion pictures and sound. A video disc looks like a long-playing record and requires a special playback machine.

VHS (Video Home System): the format of 1/2-inch video tape most widely used by amateurs.

WIDE-ANGLE LENS: a lens that has a wider field of view (includes more area) than a normal lens.

WIDE SHOT: a shot that shows the subject in relation to the setting and surrounding area. It is often used to establish the location and the relation of the subject to other parts of the setting.

ZOOMING: changing the field of view of a zoom lens while the camera is running to show more or less of the subject.

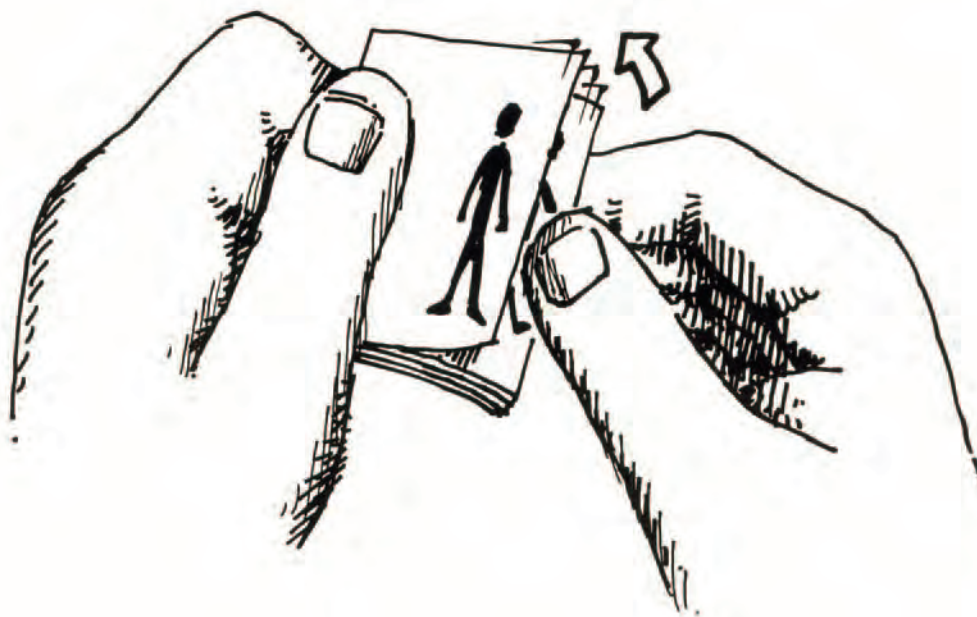
ZOOM LENS: a lens that can be adjusted to normal, telephoto or wide-angle positions, or any position in between.

Video and Movie Magic: How it works

Try a simple experiment. Cut out the 16 drawings on pg. 13. Cut along the lines. Hold the drawings together with your left hand, and watch the figure move as you flip quickly through the drawings with your right hand. (See Image 8.)

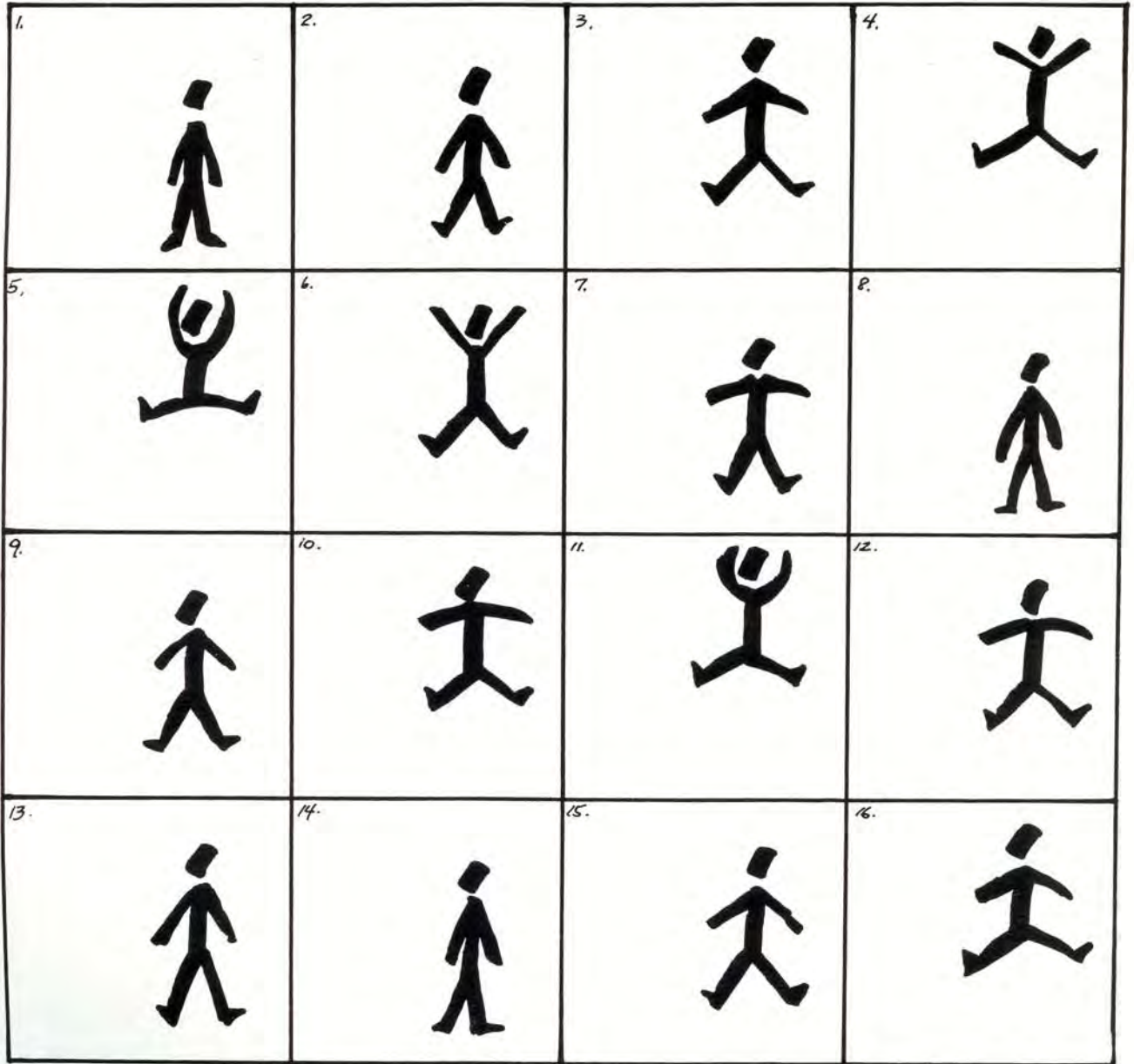
Your first cartoon! This is how cartoons are animated. In fact, all movies, videos and TV shows use this “special effect.” They fool you into thinking you see motion. When you shoot a video or movie, you are actually taking many still pictures of a moving subject. When those pictures are viewed quickly, they change so rapidly your brain thinks it is seeing continuous action. This is called “persistence of vision.”

Image 8: Quickly flip the pages to see the movement.





Flip book pages





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