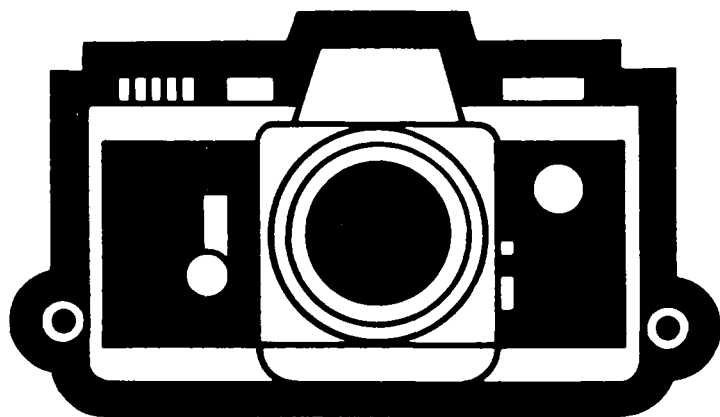

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September 1991

Leader Guide

4-H Photography

Unit 1



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4-H PHOTOGRAPHY PROGRAM

MANUALS

UNIT 1: "ADVENTURES WITH YOUR CAMERA"

- For beginning photographers (ages 9 and older)
- Teaches the basics of good picture-taking
- Full-color step-by-step photos in Member's Guide

UNIT 2: "EXPLORING PHOTOGRAPHY"

- For intermediate photographers
- More advanced techniques with simple cameras
- Action pictures, night scenes, composition, slide films, and basic photographic principles covered in black-and-white Member's Guide

"ADJUSTABLE CAMERAS"

- For users of adjustable cameras with interchangeable lenses
- Why and when to use different lens openings, shutter speeds, and lenses

"DARKROOM TECHNIQUES"

- For those who want to process and print their own film (black-and-white and color)
- Can be learned at any time (after completing Unit I)
- Darkroom facilities and equipment are needed

"ACTION! MAKING VIDEOS AND MOVIES"

- For photographers who want to make their own video tapes or movies
- Members learn to plan, shoot, and edit videos and movies

ADVANCED SKILL GUIDES

For special interests, the following material is available through county 4-H agents.

"Experimenting With Your Enlarger"

"Investigating Portraiture"

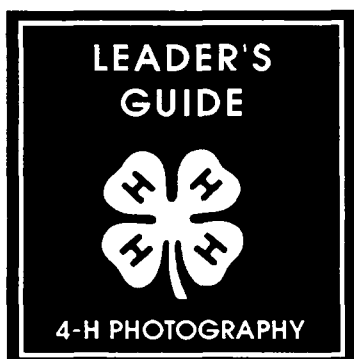
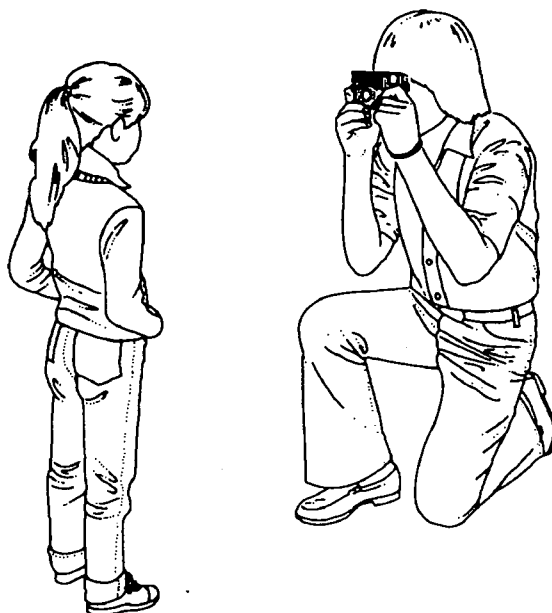
"How to Produce a Slide Show"

"Fitting a Darkroom Into Your Life"

"Making the Most of Your Photo Skills in Your Future Career"

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INTRODUCTION

Welcome to Leadership in 4-H Photography! No special knowledge is required. This Guide and the Member's Manual provide all the information you need for Unit 1. They are designed to make photography easy to learn and to teach.

There are only three essential requirements for successful leadership. One, MAKE IT FUN. Two, make it fun by KEEPING A LIVELY PACE. And three, keep a lively pace by KEEPING THEM BUSY.

INFORMATION

This manual contains information for instruction. You'll find photographic information in the Member's Manual. For additional information, you can turn to the photography books in the bibliography and the resource people listed on page 18.

PROGRAM CONTENT

The manuals are designed to make this unit easy to manage — for leaders and members. Review this material. Projects ("Adventures") are listed on pages 38 to 41 of the Member's Manual. Additional meeting activities are included in this Leader's Manual. Use these suggestions to form your own meeting plans.

Base the content on the age, speed, and experience of group members. Although activities are suggested throughout, augment these recommendations with other ideas for field trips and projects. Use whatever supplementary material and situations you have available.



Ask your county 4-H agent if there are any special requirements for your state.

SUPPLIES AND COSTS

Members need the following supplies.

- CAMERA (any amateur camera) with a built-in flash or flash attachment. Batteries are usually required.
- CAMERA CLEANING SUPPLIES (any camel's hair brush and lens cleaning paper or a soft cloth).
- FILM (a minimum of six 24-exposure rolls to complete all meeting assignments). A 200-speed film for color prints is a good general-purpose recommendation, but any film will work.
- Optional construction supplies to make a cut-out viewer and a photo album or display board (SEE Member's Manual pp.3, 31).

Keep in mind that members will need a source for film processing and printing.

Don't forget costs. You may want to project the costs to make sure the budget is adequate. Educational discounts may be available from retailers.

LEARNING BY DOING

People learn best by doing. Try this schedule: Give short demonstration or information sessions — timed in minutes; have members use what you told them; provide feedback (from you or their peers) to reinforce what they just learned. You'll be surprised how much they'll learn.

Have the members teach most of the material through presentations and explanations. Avoid lectures. Show the kids how to teach using single-concept bits of:

Stimulation (information presentation).

Response (using or doing what was presented).

Feedback (positive reinforcement by comments from the instructor, immediate correction of mistakes while they are "doing," coaching by the leader or other members. Always a pat on the back for getting the idea.)

TIMING

Time the introduction of new material to the aptitude of your members — move as quickly as they can master the subject. Group size may partly determine your speed. The ideal group is 6-10 members.

Give individual as well as group instruction. Keep discussions short and use visuals whenever possible. (Photography is visual.) Finally, try to determine the photographic interests of your members.

TEAMS

Learning photography can benefit from teamwork. Your members can teach each other. You don't have to talk on every topic because your members will do it. You are the coach — you help them and guide them.

Here is one idea of what to do. Group the members into teams — 3 members each — for the first meeting. Change the teams frequently — perhaps for every meeting.

Team members will prepare demonstrations and explanations for the rest of the members about the things they'll be studying. They will also critique their own pictures from photo assignments. In group activities, a team will have a model, a photographer, and a director, and these roles will change often enough so that every member gets to play each role. Of course, you'll need individual projects, too.

HINTS FOR WORKING WITH YOUNG PEOPLE

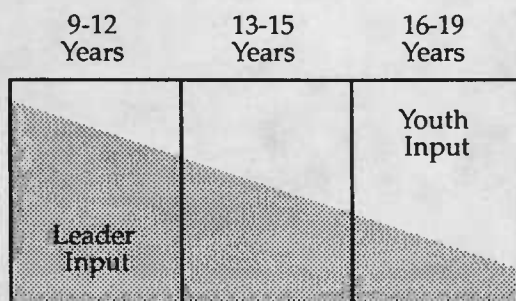
Through their various projects 4-H members will be acquiring basic development skills such as:

learning to learn
relating to change
using knowledge
developing self

As an effective leader you want to remember that at each age level there is a need to emphasize different skills and provide different degrees of leader input. As members grow older or progress in the projects the need for leader guidance decreases.

You will want to be aware of your members' development and reinforce proper attitudes. The following list of characteristics and implications may help you in planning your role as a 4-H leader.

PROPORTIONS OF LEADER INPUT AND YOUTH INPUT AT THREE AGE LEVELS



9-TO-12 AGE GROUP

Characteristics of Age Group

Quite active, boundless energy

Like group activity

Interests change rapidly, jump from one thing to another

Work must be entirely laid out and in small pieces. They need to experience success quickly.

Need much guidance from adults

Admire and imitate older boys and girls

Normally have little formal leadership ability

Are easily motivated, eager to try something new

Like symbols and regalia

Need recognition and praise for doing good work

Do not like to keep records, do not see the value in them, need assistance and close supervision

Implications

Put emphasis on doing (making things that require using hands).

Suggest small groups for project instruction.

Suggest many different tasks of short duration.

Outline "things to do" in detail. Literature should be elementary and well illustrated.

Suggest ways that parents can help. Important to have detailed materials for adult volunteer leaders (project and organizational).

Suggest ways that teen leaders can help.

Must rely on adult leaders and teen leaders for leadership.

Suggest a variety of activities (tours to view other projects, demonstrations, etc.).

Make pins and medals available to those who earn them.

Present pins and medals in front of peers and parents.

Make records as simple as possible, provide clear instructions, provide a place for parent and leader signatures and ask for a short narrative report (cause member to review what subject has learned).

CHARACTERISTICS AND IMPLICATIONS

13-TO-15 AGE GROUP

Characteristics of Age Group

Concerned about physical development, being liked by friends, social graces and good grooming (even though they don't like to admit it)

Desire a sense of independence yet they want and need their parents' help

Exploring, questioning

Self-conscious, many needing help to get over inferiority complexes

Age of fan clubs and adult idols

Want to get outside of own community to explore

Getting over age of fantasy and beginning to think of what they will do when they grow up

Some interest in coeducational activities

Interest in sports and active games

Deeper interest and can stay with something longer to complete it

Implications

Indicate how projects help members to meet these needs and suggest activities that serve this purpose.

Put more emphasis on members getting assistance from teen leaders, adult leaders, and peers.

Provide more choices of projects with possibilities for branching off into specific areas. Put more emphasis on the "why". (Suggest that time be devoted to discussion and answering questions.)

Put more emphasis on meeting individual needs. Put more emphasis on demonstrations, judging, and public speaking to get members before a group (must be helped to succeed in front of the group). Showing photos and describing them may help.

Testimonials from outstanding athletes are helpful. Teen and adult leaders must be well liked to be effective, and teen leaders should be three or four years older than members and considerably more mature (must not reject those whom they are leading).

Put more emphasis on tours and camping.

Provide information on various careers connected with the different project areas.

Recommend projects and activities in which boys and girls with similar interests can work together.

Inject fun and active participation into project work. Tasks may be more difficult and of longer duration.

Suggest more detailed records. Recommend that members begin assembling achievement records. Provide more space in record books for recording related activities.

16-TO-19 AGE GROUP

Characteristics of Age Group

Social needs and desires high

Want and need a strong voice in planning own programs

Want adult leadership

Quite interested in coeducational activities

Areas of interests are more restricted; patterns of interest becoming more definite

Need vocational guidance

Developing community consciousness

Beginning to think of leaving home for college, employment, marriage, etc.

Many will leave the community for employment and many who go to college will not return to their present community after graduation

Interested in travel and adventure

Implications

Put more emphasis on personal development wherever possible (mental and social).

Provide suggestions and several alternatives rather than detailed instructions.

Emphasize guidance and counsel from adult leaders rather than directions. Recommend liberal use of discussion method.

Provide many opportunities for boys and girls to work together.

Project work can have considerably more depth. May need to suggest related areas to give members a broader outlook. Provide references.

Include suggestions and information of a career exploration nature.

Recommend civic projects of a service nature. Document community activity with a camera.

Put emphasis on economics (management, budgets, record keeping, credit, etc.). Emphasize the need for a continuing education.

Need to introduce members to the urban-industrial complex through tours, trips to state and interstate conferences, and audiovisual materials (slides, films, and TV tapes).

Trips rather than medals and ribbons should be provided as incentives.

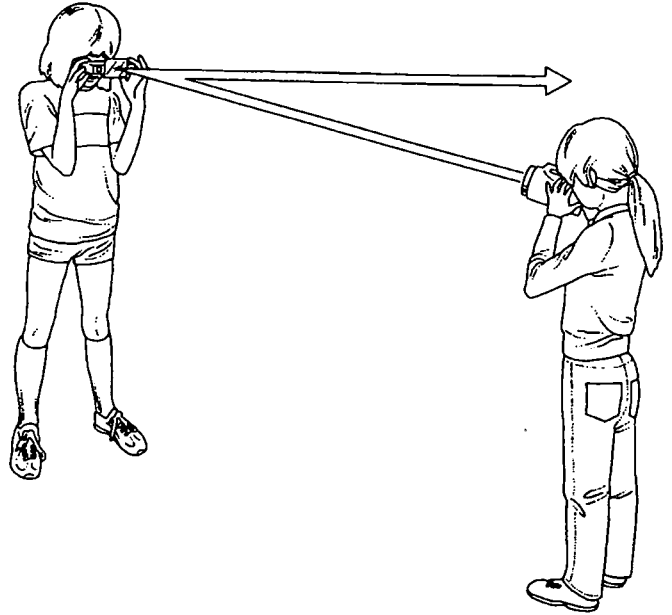
MEETING 1

OUTLINE	SUPPLIES	Member's Manual Pages
INTRODUCTION <ol style="list-style-type: none"> Welcome Members Review Unit 1 content/objectives <ul style="list-style-type: none"> 5 basic elements of photography Camera handling and care Film handling and care Taking good, sharp pictures Displaying pictures Explain the method <ul style="list-style-type: none"> Meetings (team reports) Member's Manual reading Picture-taking "Adventures" (projects, field trips) Mention other Units available in the 4-H Photography Program Supplies and Planning <ul style="list-style-type: none"> Distribute list of equipment and supplies members will need. Discuss any permissions needed for field trips. 	Record Book Meeting plan copies Member's Manual List (SEE p. 3 of this guide)	4-5 6-8, 33 32 9-11 30-31 38-41
INSTRUCTION Involve members using their cameras <ol style="list-style-type: none"> LEARNING ABOUT YOUR CAMERA CARE OF FILM and CAMERAS HOLDING THE CAMERA (Show illustrations of how to use a viewfinder on p. 8 of this guide). 	Camera, instruction booklet Brush, tissue, film roll, negatives, prints Camera, strap	8 32-33 6-7
MEETING ACTIVITY <ol style="list-style-type: none"> CAMERA STEADINESS TEST (See p. 8 of this manual) 	Camera, mirror(s), tape, flashlight(s)	
ASSIGNMENTS (All reading assignments are in the Unit 1 Member's Manual. You may wish to assign one team to report on reading material starred below.) <p>READING: "Holding the Camera" * "Taking Sharp Pictures" "Caring for Film and Cameras"</p> <p>PHOTOGRAPHY: <u>Adventures</u> 1 and 2</p>		6-7 9-11 32-33 38

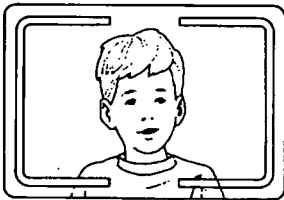
CAMERA STEADINESS TEST

... IN A DARKENED ROOM

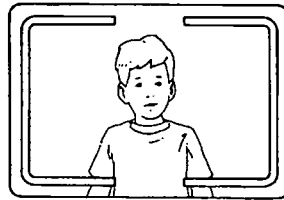
Tape a small mirror to the front of a camera lens. Have a member hold the camera up to his or her eye as if about to take a picture. In the darkened room, have a member shine the light beam from a flashlight into the mirror, so that the mirror reflects the beam onto an adjacent wall. If the member is holding the camera steady, the spot on the wall should not move. Then have the member press the shutter release as if taking a picture. Again, the spot of light on the wall should not move.



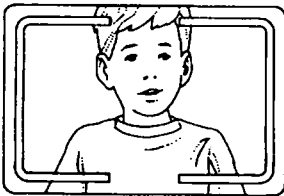
HOW TO USE AN EYE-LEVEL VIEWFINDER



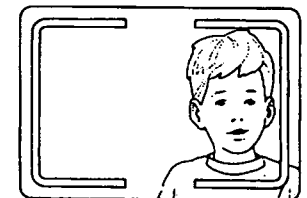
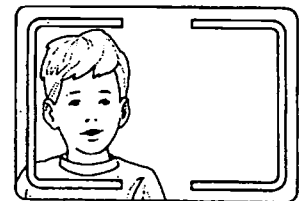
1. Correct eye position. Picture is framed properly, as you saw through viewfinder.



3. Eye too far. You get more than you saw - main subject is too small.



2. Eye is too close. You get less than you saw.



4. Eye is to one side of center. Subject is to one side in picture, perhaps cut off.

MEETING 2

OUTLINE	SUPPLIES	Member's Manual Pages
REVIEW <ol style="list-style-type: none"> Review Reading Assignment <ul style="list-style-type: none"> "Holding the Camera" "Caring for Film and Cameras" "Taking Sharp Pictures" (team report) Review Photography Assignment ("Taking Sharp Pictures") <ul style="list-style-type: none"> Camera Steadiness (Even experienced photographers are surprised to see how much sharper pictures are when taken with the camera on a tripod or a solid surface.) Camera Distance from the Subject (Too close, and pictures will be blurry. But, as we will learn, sharp close-ups make great pictures . . . so remember what's within the range of sharpness.) 	<div>Pictures to review</div> <div>Pictures to review</div>	<div>6-7</div> <div>32-33</div>
INSTRUCTION <ol style="list-style-type: none"> HOW PHOTOGRAPHY WORKS 		<div>4-5</div>
MEETING ACTIVITY <ol style="list-style-type: none"> PRACTICE SEEING PICTURES <ul style="list-style-type: none"> Make a cut-out viewer Practice horizontal and vertical framing Practice holding the viewer level 	<div>Listed in Member's Manual</div>	<div>3</div>
ASSIGNMENTS (* TEAM REPORTS RECOMMENDED) <p>READING:</p> <ul style="list-style-type: none"> * "Cameras" * "Kinds of Cameras" * "Film Types" "Get Close" "Keep It Simple!" "Move Around!" <p>PHOTOGRAPHY: <u>Adventures</u> 3, 4, 5 and 6</p>		<div>12-13</div> <div>14-15</div> <div>16-17</div> <div>18-19</div> <div>20</div> <div>21</div> <div>38-39</div>

MEETING 3

OUTLINE	SUPPLIES	Member's Manual Pages
REVIEW <ol style="list-style-type: none"> Review Reading Assignment (Team reports) <ul style="list-style-type: none"> "Cameras" "Kinds of Cameras" "Film Types" Review Photography Assignment <ul style="list-style-type: none"> Holding the camera level (“Adventure #3 includes pictures with horizon lines off-center. Most people prefer this composition as more interesting than pictures that are always centered.) Horizontal/Vertical pictures (Discuss subjects well suited for horizontal pictures . . . and for vertical pictures.) Techniques for good pictures (Discuss why close views, simple backgrounds, and different viewpoints make better pictures.) 	<p>Pictures to review</p> <p>Pictures to review</p> <p>Pictures to review</p>	<p>12-13</p> <p>14-15</p> <p>16-17</p>
INSTRUCTION <ol style="list-style-type: none"> LIGHTING (Daylight) FLASH (Artificial light) 		<p>22-23</p> <p>24-26</p>
MEETING ACTIVITY <ol style="list-style-type: none"> PRACTICE SEEING LIGHT <ul style="list-style-type: none"> Show the direction of light (Move outdoors, if possible. If not, a flashlight shining on a face in a dark room shows this well.) Look for subjects that show interesting effects of light. 		
ASSIGNMENTS <p>READING: "Lighting"</p> <p> "Flash"</p> <p>PHOTOGRAPHY: <u>Adventures</u> 7, 8 and 9</p>		<p>22-23</p> <p>24-26</p> <p>40-41</p>

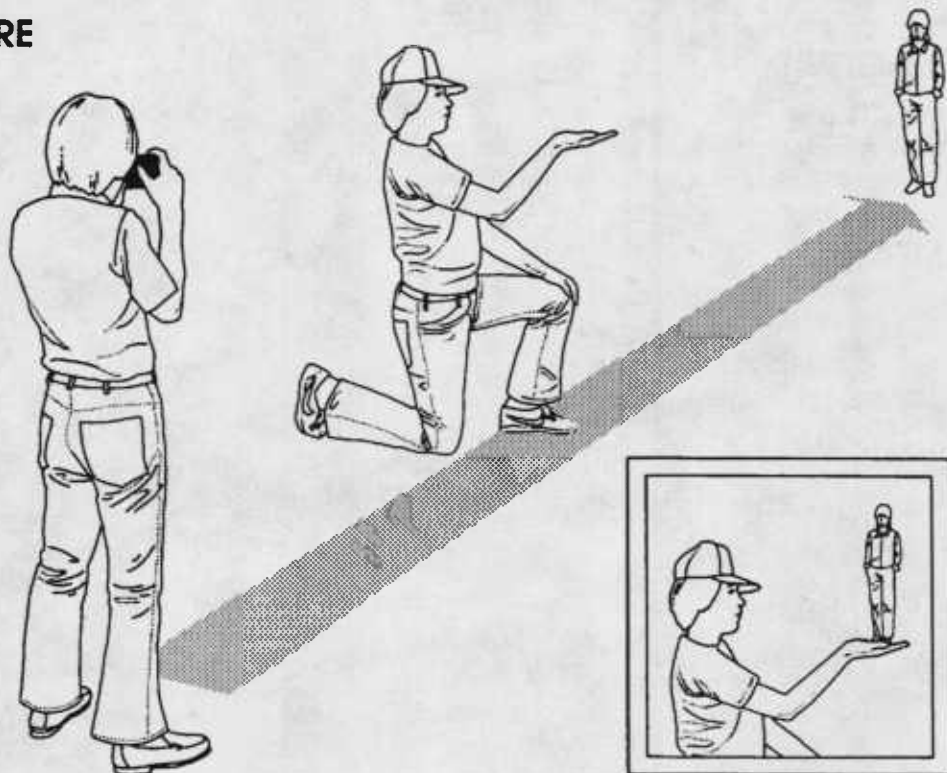
MEETING 4

OUTLINE	SUPPLIES	Member's Manual Pages
REVIEW <ol style="list-style-type: none"> 1. Review Reading Assignment "Lighting" "Flash" 2. Review Photography Assignment <ul style="list-style-type: none"> • Direction of Light (Share impressions about the effects of light from the front, side, and back. Discuss overcast days as great for people-pictures.) • Flash distance (Discuss "flash range" (p. 24) and note which of the 3 pictures at different distances received the most perfect amount of light.) • Flash reflections from shiny surfaces (Ask what other surfaces will probably reflect a harsh spot of light when the flash is straight-on. Eyeglasses are an example.) 	<p>Pictures to review</p> <p>Pictures to review</p> <p>Pictures to review</p>	<p>22-23 24-26</p>
INSTRUCTION <ol style="list-style-type: none"> 3. PHOTO STORY <p>*NOTE: Announce plans for a field trip at the next meeting, and arrange the necessary permissions/clearances.</p> 		<p>28-29</p>
MEETING ACTIVITY <ol style="list-style-type: none"> 4. TRICK PICTURES (Have teams take the trick pictures illustrated in the Member's Manual and any others they can imagine.) 	<p>Props for tricks</p>	<p>34-35</p>
ASSIGNMENTS <p>READING: "Photo Story" "Composition"</p> <p>PHOTOGRAPHY: <u>Adventures</u> 10 and 11</p>		<p>28-30 27</p> <p>41</p>

MEETING 5

OUTLINE	SUPPLIES	Member's Manual Pages
<p>FIELD TRIP</p> <p>Have teams create photo stories of the field trip. Pictures could include:</p> <ul style="list-style-type: none"> • transportation ("how we traveled there") • signs, buildings ("where we went") • people ("who went") • destination ("what we saw") 		
<p>ASSIGNMENTS</p> <p>READING: "Showing Your Pictures"</p> <p>PHOTOGRAPHY: All teams prepare an exhibit board or album to show a photo story from the field trip or <u>Adventure</u> #11.</p> <p>One team prepares a report on how to make a photo album.</p> <p>Another team reports on ideas for creating a mounted display.</p> <p>Another team reports on how to handle, organize, label, and store film negatives and prints.</p>		<p>30-31</p> <p>31</p> <p>31</p> <p>32</p>

TRICK PICTURE (MEETING 4)



NOTE: Unlike SLR (Single Lens Reflex) cameras, most simple cameras have separate optical systems for viewing and taking pictures. This produces parallax (change in image position). Trial and error may be required.

MEETING 6

OUTLINE	SUPPLIES	Member's Manual Pages
<p>[NOTE: Consider serving refreshments and inviting parents to this final meeting.]</p> <p>REVIEW</p> <ol style="list-style-type: none"> 1. Team Reports <ul style="list-style-type: none"> • Making a photo album • Mounted displays • Storing film negatives & prints 2. Review mounted photo stories. 3. Discuss ways pictures can be used in record books for other 4-H projects. 4. Discuss most helpful or memorable lessons learned in Unit 1. 5. Describe other Units in the 4-H Photography Program. 5. Encourage your "graduates" to <u>use</u> pictures to record their experiences in 4-H . . . and throughout their lives. 	<p>Record Book</p>	<p>31 32</p>

GLOSSARY

OF COMMONLY USED PHOTOGRAPHIC TERMS

Adjustable camera A camera with manually adjustable distance settings, lens openings, and shutter speeds.

Adjustable-focus lens A lens that has adjustable distance settings.

Angle of view The portion of a scene that is seen by a camera lens. The width of this wedge-shaped portion is determined by the focal length of the lens. A wide-angle (short-focal-length) lens includes more of the scene, or a wider angle of view than a normal (normal focal-length) or telephoto (long-focal-length) lens.

Aperture (lens opening) The opening in a lens system through which light passes. The size of the aperture is either fixed or adjustable. Lens openings are usually calibrated in *f*-numbers.

Automatic camera A camera with a built-in exposure meter that automatically adjusts the lens opening, shutter speed, or both, for proper exposure. (Some cameras may be equipped with an automatic focusing device as well.)

Background The part of the scene that appears behind the principal subject of the picture.

Backlighting Light shining on the subject from the direction opposite the camera, distinguished from frontlighting and sidelighting.

Balance Placement of colors, light and dark masses, or large and small objects in a picture to create harmony and equilibrium.

Bellows The folding portion in some cameras that connects the lens to the camera body. Also, a device used to increase the distance between lens and film for close-up photography.

Blowup An enlargement, a print that is made larger than the negative or slide.

Bounce lighting Flash or tungsten light bounced off the ceiling or walls to give the effect of natural or available light.

Camera angles Various positions of the camera (high, medium, or low, and left, right or straight-on) with respect to the subject, each giving a different viewpoint or effect.

Candid pictures Unposed pictures, often taken without the subject's knowledge. These usually appear more natural and relaxed than posed pictures.

Cartridge A lighttight, factory-loaded film container that can be placed in or removed from the camera in daylight.

Close-up A picture taken with the camera close to the subject.

Close-up lens A lens attachment placed in front of a camera lens to permit taking pictures at a closer distance than the camera lens alone will allow.

Coated lens A lens covered with a very thin layer of transparent material that reduces the amount of light reflected by the surface of the lens. A coated lens is faster (transmits more light) than an uncoated lens.

Color balance The ability of a film to reproduce the colors of a scene. Color films are balanced in manufacture for exposure to light of a certain color quality (i.e., daylight, tungsten, etc.). Color balance also refers to the reproduction of colors in color prints, which can be altered during the printing process.

Composition The arrangement of all elements in a picture: main subject, foreground, background, and supporting subjects.

Continuity The smooth flow of ideas or visuals in a slide show.

Contrast The density range of a negative, print, or slide; the brightness range of a subject or the scene lighting.

Contrasty Higher than normal contrast. The range of density in a negative or print is higher than it was in the original scene.

Cropping Printing only part of the image that is in the negative or slide.

Darkroom A lighttight area used for processing films and for printing and processing papers; also for loading and unloading film holders and some cameras.

Definition The impression of clarity of detail perceived by an observer viewing a photograph.

Densitometer An instrument for measuring the density of an area in a negative or print.

Density The blackness of an area in a negative or print which determines the amount of light that will pass through it or reflect from it.

Depth of field The distance range between the nearest and farthest objects that appear in acceptably sharp focus in a photograph. Depth of field depends on the lens opening, the focal length of the lens, and the distance from the lens to the subject.

Depth of focus The distance range over which the film could be shifted at the film plane inside the camera and still have the subject appear in sharp focus; often misused to mean depth of field.

Developer A solution used to turn the latent image into a visible image on exposed films or photographic papers.

Double exposure Two pictures taken on one frame of film, or two images printed on one piece of photographic paper.

Editing Selecting slides for a slide show.

Emulsion A thin coating of light-sensitive material, usually silver halide in gelatin, in which the image is formed on film and photographic papers.

Emulsion side The side of the film coated with emulsion.

Enlargement A print that is larger than the negative or slide; blowup.

Enlarger A device consisting of a light source, a negative holder, and a lens, and a means of adjusting these to project an enlarged image from a negative onto a sheet of photographic paper.

Existing light Available light. Strictly speaking, existing light covers all natural lighting from moonlight to sunshine. By our definition for photographic purposes, existing light comprises the light that is already on the scene or project and includes room lamps, fluorescent lamps, spotlights, neon signs, candles, daylight through windows, outdoor scenes at twilight or in moonlight, and scenes artificially illuminated after dark.

Exposure The quantity of light allowed to act on a photographic material; a product of the intensity (controlled by the lens opening) and the duration (controlled by the shutter speed or enlarging time) of light striking the film or paper.

Exposure latitude The range of camera exposures, from underexposure to overexposure, that will produce acceptable pictures from a specific film.

Exposure meter An instrument with a light-sensitive cell that measures the light reflected from or falling on a subject; used as an aid to selecting the exposure setting. The same as a light meter.

Exposure setting The lens opening and shutter speed selected to expose the film.

Fill-in light Auxiliary light from a lamp or reflector used to soften or fill in the shadows or dark picture areas caused by the main light source.

Film A photographic emulsion coated on a flexible transparent plastic base.

Film speed The sensitivity of a given film to light, indicated by a number (such as 64); the higher the number, the more sensitive, or faster, the film.

Filter A colored piece of glass or other transparent material used over the lens to emphasize, eliminate, or change the color or density of the entire scene or certain elements in the scene.

Finder A viewing device on a camera designed to show the subject area that will be recorded on the film. Also known as viewfinder and projected frame.

Fixed-focus lens A lens that has been focused in a fixed position by the manufacturer. The user does not have to adjust the focus of this lens.

Flash A brief, intense burst of light produced by a flashbulb or an electronic flash unit, usually used where the lighting on the scene is inadequate for picture-taking.

Flat Too low in contrast. The range in density in a negative or print is too short.

Flat lighting Lighting that produces very little contrast or modeling on the subject plus a minimum of shadows.

***f*-number** A number used to indicate the size and light-passing ability of the lens opening on most adjustable cameras. Common *f*-numbers are *f*/2.8, *f*/4, *f*/5.6, *f*/8, *f*/11, *f*/16, and *f*/22. The larger the *f*-number, the smaller the lens opening. In this series *f*/2.8 is the largest lens opening and *f*/22 is the smallest. These numbers indicate the ratio of the focal length of the lens to the effective diameter of the lens opening. *f*-numbers help you get the right exposure.

Focal length The distance from the lens to a point behind the lens where light rays are focused when the distance scale is set on infinity. Focal length determines image size at a given lens-to-subject distance.

Focal-plane shutter An opaque curtain containing a slit that moves directly across in front of the film in a camera and allows image-forming light to strike the film.

Focus Adjustment of the distance setting on a lens to sharply define the subject.

Fogging Darkening or discoloring of a negative or print or lightening or discoloring of a slide caused by (1) exposure to nonimage-forming light to which the photographic material is sensitive, (2) too much handling in air during development, (3) overdevelopment, (4) outdated film or paper, or (5) storage of film or paper in a hot, humid place.

Forced development Increasing the development time of a film to increase its effective speed (raising the ASA number for initial exposure) for low-light situations, push-processing.

Foreground The area between the camera and the principal subject.

Frontlighting Light shining on the subject from the direction of the camera.

Graininess The sand-like or granular appearance of a negative, print, or slide resulting from the clumping of silver grains during development of the film. Graininess becomes more pronounced with faster films, increased density in the negative, and degree of enlargement.

High contrast A wide range of density in a print or negative.

Highlights The brightest areas of a subject and the corresponding areas in a negative, a print, or a slide.

Hyperfocal distance Distance of the nearest object in a scene that is acceptably sharp when the lens is focused on infinity.

Latent image The invisible image left by the action of light on photographic film or paper. The light changes the photosensitive salts to varying degrees depending on the amount of light striking them. When processed, this latent image will become a visible image either in reversed tones (as in a negative) or in positive tones (as in a color slide).

Lens One or more pieces of optical glass or similar material designed to collect and focus rays of light to form a sharp image on the film, paper, or projection screen.

Lens speed The largest lens opening (smallest *f*-number) at which a lens can be set. A fast lens transmits more light and has a larger opening than a slow lens.

Lighting The illumination falling on a subject, particularly the direction or arrangement of the illumination.

Light meter (See **Exposure meter**)

Long shot A scene taken from a relatively long distance. The main subject usually appears relatively small in respect to the entire frame size. A long shot is often used to establish the location and setting.

Magazine A lighttight metal container that holds 135 film.

Medium shot A picture made about halfway between a long and a close-up shot to simulate normal viewing distance.

Negative The developed film that contains a reversed-tone image of the original scene.

Normal lens A lens that makes the image in a photograph appear in a perspective similar to that of the original scene. A normal lens has a shorter focal length and a wider field of view than a telephoto lens and a longer focal length and narrower field of view than a wide-angle lens.

Ortho Film sensitive to blue and green light.

Overexposure A condition in which too much light reaches the film, producing a dense negative or a washed-out print or slide.

Panning Moving the camera so that the image of a moving object remains in the same relative position in the viewfinder as you take a picture.

Pan (panchromatic, adj) Sensitization of a black-and-white film so that it records all colors in tones of about the same relative brightness as the human eye sees in the original scene.

Panorama A broad view, usually scenic.

Parallax At close subject distances, the difference between the field of view seen through the viewfinder and that recorded on the film. This is due to the separation between the viewfinder and the lens. There is no parallax with single-lens reflex cameras, because when you look through the viewfinder, you are viewing the subject through the picture-taking lens.

Perforation(s) Regularly and accurately spaced holes punched throughout the length of 35 mm film.

Planning cards Pieces of paper (for example, 4 x 6-inch index cards) used to plan a photo story. Each card represents one picture. A rough sketch of the shot and any pertinent information, such as location, camera angle, camera-to-subject distance, and message the shot should convey, can be put on the card.

Positive The opposite of a negative; an image with the same tonal relationships as those in the original scene - for example, a finished print or a slide.

Print A positive picture, usually on paper, and usually produced from a negative.

Processing A procedure during which exposed photographic film or paper is developed, fixed, and washed to produce either a negative image or a positive image.

Push Processing (See **Forced development**)

Rangefinder A device included on many cameras as an aid in focusing.

Reflector Any device used to reflect light onto a subject.

Reflex camera A camera in which the scene to be photographed is reflected by a mirror onto a glass where it can be focused and composed. In a single-lens reflex (SLR) camera, the scene is viewed through the same lens that takes the picture, thus avoiding parallax. With a twin-lens reflex (TLR) camera, the scene is viewed through the top lens, and the picture is taken through the bottom lens.

Retouching Altering a print or negative after development by use of dyes or pencils to alter tones of highlights, shadows, and other details, or to remove blemishes.

Safelight An enclosed darkroom lamp fitted with a filter to screen out light rays to which film and paper are sensitive.

Script A set of written specifications for the production of a slide show.

Selective focus Choosing a lens opening that produces a shallow depth of field. Usually this is done to isolate a subject by causing most other elements in the scene to be blurred.

Shutter blades A curtain, a plate, or some other movable cover in a camera which controls the time during which light reaches the film.

Sidelighting Light striking the subject from the side relative to the position of the camera; produces shadows and highlights to create modeling on the subject.

Simple camera A camera that has few or no adjustments to be made by the picture-taker. Usually, simple cameras have only one size of lens opening and one or two shutter speeds and do not require focusing by the picture-taker.

Slide A photographic transparency, usually color, mounted for projection.

Soft focus Produced by use of a special lens creating soft outlines where light areas tend to encroach on dark areas.

Soft lighting Lighting that is low or moderate in contrast.

Spotting Retouching a processed print with a pencil or brush (with water colors or dyes) to eliminate spots left by dust on the negative.

Stain Discolored areas on film or paper, usually caused by contaminated developing solutions or by insufficient fixing, washing, or agitation.

Telephoto lens A lens that makes a subject appear larger on film than does a normal lens at the same camera-to-subject distance. A telephoto lens has a longer focal length and narrower field of view than a normal lens.

Thin negative A negative that is under-exposed or underdeveloped (or both). A thin negative appears less dense than a normal negative.

Through-the-lens viewing Viewing a scene to be photographed through the same lens that admits light to the film. Through-the-lens viewing, as in a single-lens reflex (SLR) camera, while focusing and composing a picture, eliminates parallax.

Time exposure A comparatively long exposure made in terms of seconds or minutes. It is used primarily in night photography.

Title A scene that shows the name of a slide show (usually placed at the beginning) or indicates or explains what is coming next.

Tone The degree of lightness or darkness in any given area of a print; also referred to as value. Cold tones (bluish) and warm tones (reddish) refer to the color of the image in both black-and-white and color photographs.

Toning Intensifying or changing the tone of a photographic print after processing. Solutions called toners are used to produce various shades of brown and blue.

Transparency A positive photographic image on film, viewed or projected by transmitted light (light shining through film).

Tripod A three-legged supporting stand used to hold the camera steady.

Tungsten light Light from regular room lamps and ceiling fixtures, not fluorescent.

Underexposure A condition in which too little light reaches the film, producing a thin negative, a dark slide, or a muddy-looking print.

Unipod A one-legged support used to hold the camera steady.

Viewfinder (See Finder)

Vignetting Printing the central area of a picture while shading the edge areas gradually into white.

Wide-angle lens A lens that has a shorter focal length and a wider field of view (includes more subject area) than a normal lens.

Zoom lens A lens in which the focal length can be adjusted over a wide range, giving the photographer, in effect, lenses of many focal lengths.

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