

4-H PHOTO LEADER RESOURCE GUIDE

7 STEPS TO LEADER SUCCESS

Step 1: Get Started

Start your planning early in the 4-H year because enthusiasm is highest at enrollment time. Find out names, addresses, and phone numbers of photo project members and parents. Identify potential youth leaders.

Set up a schedule of meetings and activities. Plan at least six project meetings per year. Field trips, tours, and individual sessions can be offered in addition to or in place of group meetings. Keep meeting times consistent, e.g., every first Saturday at 2 p.m. or every first Tuesday at 5 p.m. Using the same meeting times should make it easier for families to fit them into their schedules. Type the schedule and send it to the families. Set up a system to call members as a reminder for meetings and activities.

Find a good place to meet, a place that doesn't have too many distractions and can accommodate the size of your group.

Step 2: Get Organized

Ask your project members to help plan the meetings and activities. They will be more interested in activities they help plan. Plan at least two weeks ahead for project meetings and activities. At each meeting, plan an educational program and time for playing games or just talking. Refreshments are optional.

Keep meetings fairly short, not over 1 1/2 hours. Don't be too formal. Be yourself, be organized, and be prepared. Possible agenda:

- Get-acquainted activities and group builders to help get the wiggles out and project members mentally alert and ready for a meeting.
- Announcements (important events, new resources, etc.).
- One or two learning activities. Allow time for everyone to participate in the learn-by-doing activities. This is important to youth.
- Wind down – ask youth to review what they learned, including life skills. Discuss how these skills can be applied in other situations.

- Refreshments, recreation (photo games), and reminders.

Vary your teaching methods – videotapes, demonstrations, games, discussions, hands-on activities. Try any activities first to know the amount of time and materials needed to successfully carry them out. The national 4-H photo curriculum is loaded with activities that will be perfect for your meetings. Check them out at the 4-H Mall web site: <http://www.4-hmall.org/detail.aspx?ID=484776>.

Give youth space and don't keep them sitting and listening too long. They can listen and absorb information for up to 20 minutes at a time. After that, they need activities to reinforce what they've heard. Keep a lively pace at meetings by keeping them busy.

Get 4-H'ers into the discussion with questions like "Would you tell us how you did this?" "How would you explain . . ." and "What do you like about this picture?"

Step 3: Get Help

You don't have to do it alone. Seek out additional resources for project meetings and activities. Parents and the county Extension office are always willing. Don't forget resource people, businesses, and groups in your community. Ask for their help, too.

There are photo resources available to you through your local 4-H office, including the state 4-H photo display, which makes an excellent teaching tool. Contact other 4-H photo leaders in your area. They can be excellent sources of help and creative ideas. Attend some of their photo meetings to get ideas.

If your group is too large, ask for help to lead them, or divide the group into two smaller groups and meet separately with each. Keep parents and your club's general leader informed about member growth and progress throughout the year. Remember to "empower" older youth. Those in the photo project can take on leadership responsibilities.

Step 4: Keep Records

At the first meeting, help members set realistic goals for the project. Have them write “What I would like to do and learn in my project.”

Help members keep a record of what they do or make in the project during the year. At the end of each meeting, have each member write his or her name on a card, along with the date and what was learned. Collect the cards. At the end of the project year they can use these to complete their records. The national 4-H photo curriculum is also written in a workbook format so youth can record their progress there.

At the final meeting, review progress toward the year’s goals. Evaluate the project year for yourself and the youth. What changes would you make next year?

Step 5: Work with the Youth

Be enthusiastic. Give praise for every photo taken. Youngsters feel good about their efforts when you see some merit in their work. Give lots of encouragement. Give genuine praise for good effort. Your goal is to help them make their best, better. Encourage them to go on.

Be gentle with suggestions for improvement. Youngsters know when they’ve made a mistake and want help to improve. Learn how to give positive criticism.

Be firm but fair with discipline. Remember that youth will learn many life skills during your sessions – how to get along with other people, teamwork, cooperation, respect, creativity, etc. Keep it fun!

Step 6: Be Flexible

Try to be open-minded and to gear activities toward youths’ needs and interests. You’ll learn about new things and find many that you enjoy, too. If your meeting or project year isn’t working out just the way you planned it, revise and change as you go along.

Step 7: Stay Positive

Don’t give up if things don’t go as planned. Decide to give it your best shot for the whole year.

Don’t expect too much of you or your members. Anticipating more than is possible can lead to frustration. Be realistic. Remember the many benefits you receive from being a leader – sense

of fulfillment, satisfaction, self-confidence, and the feeling of being needed. You will learn how to plan, develop, carry out, and evaluate learning activities; how to teach; and how to take and use pictures. You will also get a chance to meet and network with other leaders with similar interests.

PHOTO LEADER RESOURCE KIT

Some resources you should have available to you as a 4-H photo volunteer:

Camera: You’ll need access to at least one camera, preferably a digital camera, which makes a fantastic teaching tool. It doesn’t have to be an expensive camera. It’s also handy to have access to an old 35mm film-based single lens reflex (SLR), so you can show youth the aperture and shutter inside the camera.

Camera Cleaning Kit: Most camera and some department stores sell inexpensive kits with lens-cleaning brush, fluid, and tissue, as well as a soft cloth to clean the camera body. Show members how to use the cleaning kit. Hold a group “camera-cleaning” time at meetings and before photo field trips.

Camera Manual: Study the instruction book that comes with your camera. If you don’t have it, check a camera store or the Internet for a copy. Help the youth find instruction books for their cameras; help them understand what they read in their manuals.

County Fair Photo Premium List: Contact your 4-H office for a copy of the current county fair premium list. A copy may be posted on the Internet for your county fair. Although photography is always Class 20, the photo premium list varies greatly from county to county. Study your county’s photo premium list. If there are terms you don’t understand, consult your county fair photo superintendent. Build meetings, trips, and tours around your premium list.

4-H Photography Publications: Have a copy of the latest photo member and leader guides used in your county. National 4-H photo curriculum has three levels for beginner, intermediate and advanced.

Other Photo Books and Magazines: Have a small selection of your top photo books and magazines for reference during photo meetings.

Cropping Tools: “Cropping” means removing the “extras” from around the subject after you take a photo. Computer editing programs make cropping a photo electronically easy today. To help youth see what an actual print would look like cropped, make a set of “L-tools” from a piece of 8 ½ x11 or larger black poster board. First measure and mark 1 ½ inches from all four sides of the poster board, then cut the poster board. Place the L-tools on a picture and move them around until the picture looks the best. When a 4-H'er asks you to critique a photo, use the L-tools to discuss composition techniques: getting closer to the subject, eliminating distracting objects from the background, changing the placement of the subject (rule of thirds), etc. Help the 4-H'er decide how to crop a photo before enlarging it for the fair or display. When the youth is ready to crop the photo, use a paper cutter or scissors.

Visualizing Tools: “Visualizing” means cropping a scene in your mind and in your camera's viewfinder before capturing it on film. Beginners usually include too much of a scene in their pictures. The following visualizing tools will help you show youth how to crop before they shoot:

- Center core of a paper-towel roll gives youth a telescopic view of a scene.
- Cardboard viewfinder made by cutting a 1 x 2 rectangle in the center of a 6 x 9 cardboard. When youth hold the viewfinder close to their eyes, they get a wide-angle horizontal or vertical view of the scene. By moving it further away, the amount of area they see is reduced, creating a telephoto view of the scene. Help 4-H'ers make their own viewfinders to take with them on photo walks and field trips.
- Rule-of-thirds window – According to this rule of composition, you divide a scene into thirds horizontally and vertically (like a tic-tac-toe grid). Place the subject near one of the four circles – not in the center of the picture – for stronger composition. To help youth practice this rule, cut a rectangle or square (match the shape of your camera's viewfinder) in a piece of cardboard. Then tape a piece of clear plastic to one side of the frame so that the plastic covers the window. With a felt-tip marker divide the window into thirds vertically and horizontally. It's like giving your window “panes.” Now look through the window to visualize photos using the rule of thirds. Many digital

cameras now have a rule-of-thirds grid visible in the LCD monitor or viewfinder.

- Slide mount or frame – Paint a blank or empty plastic slide mount black to visualize the scene. It's cheap and easy to carry and replace.

Photo Samples: It's great to have a selection of photos that you can refer to that show strong composition, weak composition, and some common county fair classes.

Other Optional Items in Your Kit

- Camera Bag: To carry and protect your cameras and organize your accessories.
- Mat and Board Samples: The same photo mounted on several different mat and poster board color combinations can be used to show what effect the surrounding colors have on a photo.
- Mounting Samples: Photos mounted on a single 11 x 14 poster board using different mounting techniques: rubber cement, two-sided tape, spray mount, corner mounts, etc.
- Mounting Supplies: Rubber cement, two-sided tape, poster board, mat board, etc.
- Tripod: For hold-your-camera-steady demonstrations and time-exposure photos.

COMMUNITY RESOURCES

Don't overlook the resources available in your community – libraries, camera and department stores, and local photographers. Attend local workshops sponsored by UW-Extension, technical colleges, camera clubs, and stores.

DISPLAYS

County 4-H Photography Display

A display can make a great resource for project meetings, county fairs, and other community events. It also is a great way for youth in your club and county to showcase their work. Develop a portable display of the best photos taken by your 4-H members. Youth can help select the photos at a meeting or at the county fair through a judging process.

State 4-H Photography Display

Each annual state display consists of about 20 panels of photos taken by 4-H'ers from nearly every county. State displays for the past four years are available. You can order a display for a

small fee from the Coop Media Collection in Madison through your county 4-H office. State displays can be used as resources for any level of training. A word of caution: photos on these displays tend to be blue ribbon quality. If you show a display to your project members or use it in a judging exercise, the quality of photos may be discouraging. Your photo members may feel they can't take pictures of that quality yet. Remind them that these are among the best photos taken by 4-H'ers in the state, that being on the state display is something to strive for.

STATEWIDE TRAINING

Foto Follies

Statewide weekend training conferences designed especially for 4-H youth and adult photo leaders, as well as county fair photography judges. For the latest information, visit: <http://www.uwex.edu/ces/4h/onlinpro/FotoFollies2009.cfm>.

4-H Art Labs

Statewide weekend camps held each fall for new and emerging youth and adult leaders to learn about the arts, including photography. Photo track topics range from still photography to videography. Watch your 4-H family newsletter for announcements, or visit the web site: <http://4h.uwex.edu/events/artsleadership.cfm>.

4-H Arts Camp

Statewide weekend camp for youth in grades 6-8 to learn about the arts, including photography. Older youth handle the teaching. Held in October at Upham Woods Environmental Education Center, Wisconsin Dells. Web site: <http://4h.uwex.edu/events/artscamp/index.cfm>.

State 4-H & Youth Conference

Statewide conference for youth in grades 8-10, held each June at the UW-Madison campus. Offers educational seminars on many topics, including photography. Contact your county Extension office for details. If you're in grades 9-12, apply for the conference Photo Team. This team of 10-15 youth and advisors captures the conference with digital photos and presents an end-of-conference PowerPoint to delegates. Check with your county Extension office for details, or visit the Photo Team web site: <http://4h.uwex.edu/teams/pressteam.cfm>.

PHOTO MEETING IDEAS

Following are some topics to try at your photo project meetings this year. The starred items need an adjustable camera for best results.

- Buying a camera
- Caring for a camera
- Caring for photos
- Choosing the best lighting
- Cleaning a lens
- Comparing effects of various filters
- Comparing effects of various lenses
- Composing a photo
- Creating a collage of magazine photos
- Creating a photo statuette
- Creating a pinhole camera
- Creating a portfolio of my best photos
- Cropping a photo
- Developing a photo word game
- Enhancing a photo with a computer
- Entering photos in a county fair
- Entering photos in a photo show or contest
- Giving a photo demonstration
- Holding a camera steady
- Identifying parts of a camera
- Interviewing a photo professional
- Judging photos
- Keeping a photo journal
- Keeping an photo expense record
- Making a photo cropping tool
- Making a photo display
- Making a photo story
- Making a photo transfer on a shirt
- Making a photo visualization tool
- Making and using a light reflector
- Matting and framing a photo
- Mounting a photo
- Organizing a photo bingo night
- Organizing a photo quiz bowl
- Organizing a photo scavenger hunt
- Painting with light*
- Photographing good things about our town
- Photographing things about our town that might be changed
- Photographing my friends
- Reading a camera manual
- Recognizing common photo errors
- Selecting the right ISO for the conditions
- Serving as youth leader for our photo group
- Storing my digital photo files
- Taking a studio still life
- Making a portable photo studio
- Taking action pictures/panning

- Taking black-and-white photos
- Taking close-ups*
- Taking double exposures*
- Taking group photos
- Taking night photos*
- Taking panoramas*
- Taking portraits
- Taking silhouettes
- Taking trick photos
- Visiting a camera store
- Visiting a one-hour photo lab
- Visiting a photo web site
- Visiting a portrait studio
- Visualizing a photo/using a viewfinder

GREAT PHOTO ACTIVITY IDEAS

Contests

Contests help 4-H'ers follow directions for entering photos, labeling photos correctly, and meeting deadlines. In a photo contest photographers are asked to take pictures that fit into pre-selected categories. A judge then places and critiques the entries and awards prizes.

Watch the news media for contest opportunities, or you can design and hold your own photo contest. First, select your contest categories, such as animals, people, landscapes, youth working on 4-H projects, and people working in your community. Then decide on deadlines and guidelines for entries, including number of entries, picture size, mounting, and matting. Before you start, give younger 4-H'ers some suggested photo ideas and reminders on good photo composition rules. Have an unbiased person judge the photos and present prizes (e.g., photo book or camera accessory for the winners, participation certificates for all).

County Fairs

A 4-H'er doesn't have to take part in a county fair to complete the photography project, but the fair can be a fun way for members to apply and showcase what they've learned.

Hold a pre-fair meeting with your 4-H'ers to help them select the photos they will take to the fair. Give each member a chance to show his or her pictures to the rest of the group. Encourage the group to point out strengths and weaknesses of the photos and suggest which pictures they would take to the fair – but the final selection is to be made by the exhibitor. At this same meeting review the county fair rules and perhaps

help members mount their photos and prepare their entries.

Once the fair starts, visit as a project group. Attend any photo classes being conference judged. Listen to the judge's comments. Look at all county photo entries when they're exhibited. Does your group agree with the judge's decisions? Take digital photos of the best entries for discussion at future photo meetings. Judge these entries on the basis of technical quality, composition, and story-telling ability.

After the fair have members bring their own entries to a project meeting. Discuss their placings and reasons, then celebrate their efforts and accomplishments!

As a group you could visit a neighboring county fair. How does its photo rules differ from your county? How does the quality of their entries compare? Create a display of the best county fair photos taken by your group. Make sure all are represented on the display. Show the display at school, library, etc. Use it as a training tool for new project members next year.

Demonstrations

4-H members can learn more about photography by doing "show and tell" demonstrations.

Formal Demonstrations

A formal demonstration has an opening, body, and conclusion, supported with visuals and a question-and-answer period at the end. Formal demonstrations usually last 5 to 10 minutes and work well with a captive audience at a club or project meeting.

Topics are endless. For example, a demonstrator could show a collection of old and new cameras, pointing out that though cameras have changed a lot, their basic parts have stayed the same. Make a list of who will give demonstrations at future project or club meetings.

Action Demonstrations

Informal or action demonstrations, which put more emphasis on the "showing" than the "telling," work well at malls and county fairs where the audience is on the move. A 4-H'er may hold an action demonstration on how to mount a photograph, for example. As she goes through the process several times, the demonstrator invites those passing by to watch, listen, try it themselves, ask questions, etc.

You might encourage members to develop camera and photographic “models” that people can touch during 4-H action demonstrations without handling the actual equipment. 4-H’ers could teach how to clean cameras, clean a lens, etc., without using the real thing.

Electric quiz boards and computers make ideal interactive tools for action demonstrations. Make up a set of questions that guests can answer within a few minutes. Don’t make the questions too difficult.

Schedule a 4-H club “photo night” sponsored by your photo project members. Have them set up a number of action demonstration stations that club members can visit, such as, how to hold a camera steady, parts of a camera, basic rules of composition, and types of cameras.

Field Trips

On photo field trips members learn to understand the workings of their cameras and equipment, practice rules of composition, and take pictures that interest them.

Allow members to decide where they would like to go for their field trips. Opportunities include zoos, playgrounds, farms, parks, and more. Make arrangements for the field trip. Before the trip send a reminder to members and parents, along with instructions of what they need to bring. Involve parents in the trips so families can learn together.

The youth should take photos of subjects that interest them and make them happy. Encourage them to take lots of pictures, experiment, move around the subject, and shoot from several angles. At a follow-up meeting, have members compare and critique pictures, which is an effective tool for developing their language skills. They might also pick out the best ones for county fair entries.

Have youth make “photo stories” of their field trip. Remind them to include beginning, middle, and ending photos. Have your group take a photo field trip to someone’s backyard. Challenge them to find photo opportunities within the limited space. The lesson: you don’t have to wait until vacation time to take pictures. Good photo opportunities are right in your own backyard anytime!

Schedule a field trip to a one-hour photo lab, portrait studio, or camera store. Prepare them for what they might learn at each site.

Judging

Judging is a good way to teach and reinforce important photography concepts. It also helps youth understand and appreciate the decisions that judges must make at shows and county fairs.

You could make some judging stations or use any of the state 4-H photo displays available through the Coop Media Collection (contact your county Extension office) to run a photo judging activity. Have a panel of pictures serve as one station. Since each panel represents a variety of pictures, the photo class could be “my favorite enlargement.” Ask groups to select the first, second, and third place photos on each panel and give reasons why.

Have each 4-H’er bring in two mounted pictures, then have the members decide how to group the pictures into categories. Then judge the categories. Encourage members to do this judging activity at home with family members with photos from the family photo album. They can use any number of photos and stations. Teams may have as few as one or two people in them or the family can form one large team to judge each station together.

Scavenger Hunts

Photo scavenger or “treasure” hunts are one of the most successful activities you can try. Hunts are fun ways to encourage photography members to take a variety of pictures, sharpen their observation skills, and show creativity when photographing commonplace subjects. Scavenger hunts can be run many different ways. Here is one example:

1. Make sure everyone has access to a digital camera, with fresh batteries and adequate space on the memory card.
2. Create a list of items they should photograph. The list depends somewhat on the geographical area in which they will be taking pictures. Five to 10 items are about right, but you may want to have more. Pass out a copy of the list to all members of the group.
3. Create a Scavenger Hunt Checklist. For example, you might direct participants to shoot at least two each of the following subjects and then use the rest of the photos on subjects of their choice: Animal,

Building, Landscape, People in action, People up close, Sidewalk, Something smooth, Water.

4. Encourage 4-H'ers to be as creative as possible. Give them some reminders: hold camera steady unless panning, follow the rule of thirds, try framing and unusual camera angles, move in close to the subject, keep the horizon level, keep backgrounds simple and uncluttered, relax, and have fun.
5. Start early in the day. Set a time and place to return. Give them one to two hours to take the pictures.
6. Take their memory cards to a one-hour photo-processing lab. Allow the lab extra time for processing a large number of photos. Have the finish time pre-arranged with the one-hour store. It's also a good idea to know the price of prints so 4-H'ers will have the money to pay for them at pick-up time.
7. When you get together again as a group, have poster board, rulers, and rubber cement ready for them. Ask youth to select their best photo for each of the assigned areas and mount these photos on the poster board. Have them write their names on the boards and set the boards up for display. (Invite parents to this session and let them see the works also.) Note: If you don't live near a one-hour photo shop, give the assignment at a photo meeting, then have the 4-H'ers return to the next meeting with their prints.

MISCELLANEOUS

Need an idea for a project meeting or a project year? Here is a grab bag of ideas to try. Add your own.

Camera: Care

- Give everyone a large, clear plastic bag and rubber band for taking pictures in rainy weather. Cut a hole in the bag big enough for the lens to poke through; tighten the bag around the lens with the rubber band. For some cameras you may have to cut a hole for the viewfinder and flash, and tape the bag in place.
- Help 4-H'ers put their names on their cameras and camera cases. Try marking pens, gummed labels, and luggage nametags. Some police departments will engrave names on cameras.

Camera: Parts

- Have each member draw a camera and identify the different parts of a camera. Display their drawings. Discuss.
- Mount a large picture of a camera on poster board. Cut it into puzzle pieces. Have group members identify parts of the camera as you reassemble the puzzle.

Camera: Types

- List the popular cameras on the market and their uses. Explain why some cameras cost less than others. Visit a camera store to see each kind of camera. Discuss the differences.
- Schedule speakers to talk on types of cameras. Encourage them to discuss subjects in simple terms that all can understand. Set up displays (parts of a camera, how a camera works, types of cameras, etc.) to create interest, help answer questions, and point out resources available.
- Visit a camera store. Have 4-H members look through instruction booklets for various kinds of cameras.

Careers

- Explore various job opportunities in the area of photography. Interview a person that has a job related to photography, e.g., photo lab technician, police officer, professional photographer, realtor, newspaper reporter, and camera store sales clerk. Check the library to find out all you can about the job that you are investigating. Prepare a list of questions to ask during the interview. Report back to the group.
- Invite a professional photographer to your club or project meeting to discuss what it's like to "make a living" making pictures.
- Look at some photographs by famous photographers. Ask 4-H'ers to describe the photo and how it was taken. Try to take a picture just like it.

Community Projects

- Document your neighborhood. Take pictures of people at work and play, people of different ages, and buildings where you and others live, work, and spend time.
- Develop exhibits on local history for display in the library, government offices, and shopping areas.
- Photographers interested in exploring video skills can develop a skit based on local

historic events or individuals, or make a taped “walking tour” of your community.

- Hold “A Day in the Life” of your community. Choose the shooting day and list important community people, places, and things as subjects. Conduct photo training meetings so 4-H’ers and youth leaders are prepared. Begin the shooting at sunrise. Review the digital photo files and choose which ones to print. Display enlargements at county fair and other community events. Photos not enlarged can be displayed in an album.
- Work with your local chamber of commerce to produce a promotional brochure. Take photos of local businesses and other points of interest. Try to capture the sights that make your town special.

Cropping

- As a group, cut out magazine pictures that need cropping (e. g., subjects too far away, distracting items in the foreground, objects at edge of photos that distract). Use L-tools to decide on the best way to crop the photo. Use scissors to crop the photo. If you have two copies of the photo, mount the “before” and “after” pictures.

Lighting

- Ask your youth leaders to cut out photos from magazines that illustrate front lighting, side lighting, backlighting, and diffused lighting, and then label the pictures.
- Create reflectors from white cardboard, aluminum foil, white cloth, mirrors, etc. Experiment. Which reflect the most light? The least light? Why?

Photo Story

- Discuss how to make “photo stories.” Divide the 4-H’ers into small groups. Hand out sheets of paper and pencils to each group. Ask each group to decide on a photo story topic. Encourage them to brainstorm, write down many ideas, and vote on the best idea. Then have each group write down steps needed to tell their story. Remind them that a beginning, middle, and end are needed. Next have each group draw pictures of their steps as they would shoot them. Stick figures are fine. Give a time limit. Have some photo story ideas at hand in case groups cannot think of one (e. g., bathing a dog, building a campfire, coloring Easter

eggs, wrapping a present). Ask each group to stand before the others and discuss their photo story idea. Encourage the listeners to recommend steps if any are overlooked.

Pinhole Camera

- Make and use a pinhole camera. You can find out how from a photo book or a photo web site. In addition to learning more about photography through this activity, 4-H’ers will have a good subject for photography displays, action exhibits, and demonstrations.

Portfolio

- A portfolio is a collection of photographs, placed in an album, to express a personal interest or to show your best work. Have the 4-H’ers make portfolios. Help each member select a theme. Spell out the number, types (color and/or black and white), and sizes of prints that can be included. Specify if photos should be titled or explained in short paragraphs (captions). The first page should introduce the subject and explain reasons for doing the portfolio. All members should include enough photographs to fully express their ideas. Have a showing of portfolios at the end of the project year.
- Have the 4-H’ers make a group portfolio with each member selecting their five best pictures from the project year.

Portraits

- Schedule a fun portrait night. Before the meeting ask members to bring old hats, dolls, coats, and other props. Set up a camera on one side of the room. The members, one at a time, play the photographer and are allowed to take several photos. The photographer can pose other members in whatever costumes and positions he or she wants. Review the photos at the next meeting. Members learn about lighting, framing, focusing, and generally what makes a good picture.
- Have your 4-H’ers explore their own images with a self-portrait. The photographer can either use a tripod or other stabilizing device or may ask a friend for assistance in holding the camera and pushing the button.

Viewfinder/LCD Monitor Test

- Many camera viewfinders have frame lines to help photographers “see” what they’re

going to photograph. These frame lines are helpful, but only if they're accurate. Help your project members test their viewfinders for accuracy. They should look through their viewfinders or LCD monitors at a wall that has pictures and a doorway or window. Before taking the photo, they should make a sketch of exactly what they see through the viewfinder – top, bottom, and both sides. Then take the photo. When they look at their digital files or get their prints back, compare them to their sketches. Did they see more (or less) through the viewfinder or LCD than the cameras did through the lens? With this information they can make compensations in all future compositions.

PHOTO WEB SITES

Basic Photography

- BetterPhoto.com: <http://www.betterphoto.com/home.asp>. Excellent site for beginners and intermediate photographers.
- Beginners Guide to Photography: http://www.88.com/exposure/lowrez_i.htm. Tricks, hints and tips to improve your photography. A primer on exposure, including sim-cam for experimenting with f-stops and shutter speed.
- About.Com: Photography: <http://photography.about.com/>. A good source of information on photography composition and equipment; a site to participate in photo discussions and chats; and a place to find links to other photo sources.
- Kodak: Taking Great Pictures: http://www.kodak.com/eknec/PageQuerier.jhtml?pq-path=2/3/38&pq-locale=en_US. A thorough introduction to 35mm photography, including composition, equipment, film, lighting, techniques and trouble shooting. Includes an extensive glossary of photographic terms.
- Photo Tips: How to Take Photographs: <http://www.photossecrets.com/tips.html>. Tips and ideas to improve your photography for beginner, intermediate and advanced. Includes help on how to photograph fireworks, special effects, people, dusk shots, and much more.

Film, Photo Equipment

- Cannon USA: <http://www.usa.canon.com/>.
- Fuji: <http://www.fujifilm.com/>.
- Kodak: <http://www.kodak.com/>.
- Nikon: <http://www.nikonusa.com/>.
- Pentax: <http://www.pentax.com/>.
- Polaroid: <http://www.polaroid.com/>.
- Reviews of equipment: www.photographyreview.com.

Light, Pinhole Cameras

- Bob Miller's Light Walk: www.exploratorium.edu/light_walk/lw_main.html. A site that explores light and shadows outdoors. Includes information on how to make a pinhole viewer and a pinhole camera, how to take a "light walk" and how to experiment with light using a slide projector.
- Light: Photo.net: <http://www.photo.net/photo/tutorial/light.html>. Chapter in "Making Photographs" by Philip Greenspun about light and lighting in photography. Good photo examples of use of light.
- Pinhole Investigations: Making a Pinhole Viewer: http://www.exploratorium.edu/IFI/activities/pinhole_inquiry/viewer.html. Links to lots of other sources of information on light and pinhole cameras.
- Pringle's Pinhole: http://www.exploratorium.edu/science_explorer/pringles_pinhole.html. How to make a pinhole camera from a Pringle's potato chip can.

Magazines

- Outdoor Photographer Magazine: <http://www.outdoorphotographer.com/>. Current and past issues of the magazine, "the equipment, travel and how-to resource for the outdoor photographer." Lots of links and product information.
- Shutterbug Magazine: <http://www.shutterbug.net/>. The online version of the magazine. A fine source of photo composition and equipment information.

Museums, Schools of Photography

- American Museum of Photography: <http://www.photographymuseum.com/>. Explore photo exhibits and read about the history of photography.
- George Eastman House International Museum of Photography and Film: <http://www.eastmanhouse.org/>. Fine site for those interested in the history of

photography. Eastman was the founder of Kodak.

- New York Institute of Photography:
<http://www.nyip.com/>. Browse the photography articles for good current and seasonal information on photography.

University of Wisconsin-Extension

- Wisconsin 4-H Photography Project Page:
www.uwex.edu/ces/4h/onlinpro/photography. Source for statewide resources for the photo project, which now has over 11,500 members and 550 adult photo leaders.