Photography Standards and Instructions

- Choosing Items to Photograph
- Studio Setup and Photography Equipment
- Setup
- Taking the Photos
- Camera Settings
- Working With Your Photos
- Editing and Correcting Photos
- Photographer's Notes

Photography Standards and Instructions

This document will teach you practical ways to photograph historical items for Maine Memory Network.

Three-dimensional objects must be photographed on a solid background with proper lighting. If using a traditional camera, the resulting negative or print can then be scanned. If using a digital camera, your file must be over 2.5 MB (Megabytes).

Photographing an object may not give you the highest amount of detail or resolution that you expect. The camera and lens greatly affects the quality of the image. Cameras with 10MP (Megapixels) or more will create better-looking images than those with less. Cameras with attached lenses will also yield better quality images than those with built-in optical zoom lenses. Photographing objects with a 10-megapixel camera (or similar) may give you a file size of about 20 megabytes. This size is sufficient for sharing on MMN but also good for printing up to 8" x 10".

CHOOSING ITEMS TO PHOTOGRAPH

Items you wish to photograph may include:

- Books, letters, flat maps, newspapers, other two dimensional documents
- Photographs, postcards, stereographs, daguerreotypes, and other photographic materials
- Jewelry, hats, hand mirrors, toys, and other domestic objects
- Any other two- or three-dimensional objects

The size of the object will determine the set-up for the photographs. If you are photographing small objects, you can use a small space. If you are photographing large objects, you will need a larger space. Plan ahead for where you are setting up and choose the materials based on your space.

STUDIO SETUP AND PHOTOGRAPHY EQUIPMENT

Setting up a photography studio can be quite simple. You don't need a lot of space and this can be done within a classroom or small activities room. Try to choose a space where there is no natural light from windows or where windows have light-blocking curtains.

You will need the following materials to set up a photo studio:

- A large flat workspace, such as a table or desk, to place the items before you photograph them.—a staging area.

- A table to put the historic objects on

- A small step ladder or sturdy chair

- A good quality digital camera

- A tripod for the camera

- Lights (hot lights are not recommended for photographing historic materials)

- Light stands

- Reflectors (can use aluminum foil and white poster board)

- Extension cord and power strip (if outlets are nearby this may not be necessary)

- Duct tape to tape down wires on the floor

Other materials to bring to the work area should include:

- An ironed white or gray flat bed sheet or backdrop cloth **or** a very large piece/ roll of white paper **or** a white or gray piece of foam core/ gator board/ poster board to use as backdrop

- Clips to hang the cloth or paper

- A ruler and a coin (or crisp dollar bill) to show scale

- Weights to hold down paper edges (such as small sandbags or a paperweight)

- A tabletop lazy-susan to help show different angles

- White or clear tacks

SETUP

1. Set up the studio by first choosing the table to put all the historic materials on. Place items in the order they will be photographed. Put like items together (books together, small objects together, larger objects together) on the table. Make a list of everything you will photograph. If the objects have an accession (identification) number, include that on your list.

2. Choose the surface where you will place the items to be photographed. Place the poster board on the surface, if starting with the 2-D objects. Hang the backdrop/ sheet, if starting with the 3-D objects.

3. Put the camera on a tripod. Set up two lights, one on either side of the table close to where the object will be. Plug in all the cords (if any) and use duct tape to tape the cords to the floor for safety reasons.

LIGHTS

Lights can be used in a number of ways based on what you are photographing and where.

-   Block out all natural light from windows, and turn off the room lights. The object needs to be illuminated by lights you can control.
-   Using two lights at equal distances from the camera is the best method. Put the lights on either side of the object and tilt them downward to point the light just above the object.
-   If the object still looks too dark, you can use reflectors to increase the amount of light shining on it. Use white paper, tin foil, or a photographer's reflector. Place the reflector in front of the object (or on the side between the light and the camera). Clamp it to a stand or have someone hold it steady. Make sure the reflector does not block the camera view or appear in the shot. Using a reflector can help add light to an object by bouncing light from the reflector back to the object.

SETUP FOR 2-D OBJECTS

Two-dimensional objects are best photographed when using a copy stand. Adjust the tripod so the camera is facing down on the object and not straight ahead. If the tripod you are using does not allow this angle, use the straight-on method. Here you would set your camera lens to be parallel to the object. You'll need to use a board to tack or fasten the objects. Angle the board so it's vertical or at a slight angle from the table.

SETUP FOR 3-D OBJECTS

Three-dimensional objects will need a seamless backdrop. You can use an ironed bed-sheet or a roll of paper. Tack or tape one end of the roll to a vertical surface (wall, chalkboard) and roll the paper or sheet onto the table, taping the other end on the table's edge, closest to the camera. The backdrop

should be seamless, allowing there to be a smooth curve in the background. Place the object on the table near the camera. Set up your lights on either side of the object at the same angles. If a top light can be rigged or clamped, it will provide excellent overhead light. Place the camera and tripod close to the object so the lens and the object are on parallel planes.

USING A FLASH

The internal flash provides more light to the object. Turn off the flash when using external lights. A flash often gives a harsh, uneven light to your object. Find the flash icon on your camera's controls and turn it off. If you are not using any external lights, flash is acceptable, but be aware that your object may photograph too flat or bright. If there are shiny or light parts of your object, a flash may cause them to look even lighter and brighter, resulting in an undesirable photo.

TAKING THE PHOTOS

1. Begin with a fully charged camera battery and an empty memory card, or one with ample free space.
2. Set up the camera, tripod, and lights based on the kind of objects you are photographing.
3. Adjust the tripod to keep the camera's lens angle parallel to the object.
4. Adjust your camera settings and bracket to test the light. This means that you will try one camera setting combination (aperture and shutter speed), then another, and another without moving the object. Look at the images to find the best setting. Then, use that setting for your series of objects.
5. Leave space around the object in the viewfinder (the part you look through) but not too much. You may need to crop the image later on.
6. Focus on the object only, not the backdrop. You can use an Auto-Focus setting on your camera.
7. Take more than one picture of each object as a rule of thumb.
8. If you wish, place a ruler, coin (such as a quarter), or a crispy dollar bill near the object to show its scale.
9. Decide if you want to include detail shots. Sometimes when an object is large, you may want to photograph the entire object, and then choose an interesting part of it to photograph as a close detail shot. An example of this may be a vase: photograph the vase, and then make another picture of the back side and maybe the bottom.

CAMERA SETTINGS

Using the Automatic setting on your camera may not be the ideal method for getting the desired results. Photography is all about choosing the right combinations to take a properly exposed photo. You'll learn to accurately combine Aperture and Shutter Speed. Aperture is dependant on the distance the camera is to the object, and how focused you want the background. The shutter speed refers to how fast the camera will take the picture.

Note: You can make photos using Auto Mode and then compare the results with the photos you take using Manual settings. If Auto works for you, go for it!

- **File Size:** This is the first setting to make and is critical. Some cameras are set automatically to take a picture small, medium or large in size. Choose the setting that will give you the largest file. This way, when you want to enlarge the photo on the screen or when printing, it will be clear and not pixelated.

- **Aperture:** Aperture is the size of the lens opening. In cameras, there is a small hole where light enters the lens to create the picture. If the opening is small, it will need more time for light to come through. If the opening is large, it will need less time for light to come through. Aperture settings are marked as "Av" and settings include numbers that refer to the size of the opening: 1.4, 2, 2.8, 4, 5.6, 6.3, 8, 9, 11, 14, 16, 22. Aperture settings can be slightly different on every camera. The aperture stop of a photographic lens can be adjusted to control the amount of light reaching the film or image sensor. In combination with variation of shutter speed, the aperture size will regulate image sensor's degree of exposure to light. Typically, a fast shutter speed will require a larger aperture to ensure sufficient light exposure, and a slow shutter speed will require a smaller aperture to avoid excessive exposure.

- **Shutter Speed** is the length of time the camera shutter is open; how long the light comes through the opening to create the picture. The time is marked in fractions of a second. The shutter speed setting is marked as "Tv" and times include: 1/500, 1/250, 1/125, 1/80, 1/60, 1/30, 1/15, 1/8, 1/4, 1. This means that 1/60 equals one sixtieth of a second.

Combinations in the camera can be made automatically by choosing only one setting, Av or Tv. When you choose one, the camera will automatically set the other. For example, if you choose an aperture setting of 8, the camera sensor will determine how much time the light will need to pass through the opening of that size in order to create the picture. It might choose 1/125 if there is ample light, or 1/30 if there is not much light. If you choose a shutter speed setting of 1/30, the camera sensor will determine what the aperture size should be so light can pass through the camera at the speed you chose, creating the right exposure. The sensor might select an aperture of 8 if there is a lot of light, or 2.8 if there is not much light. You can use the manual setting on a camera, marked "M", to create your own combinations. This means you can choose both the aperture and the shutter speed to create the best image. This is a great way to learn about the setting combinations.

TAKING NOTES

Note taking is an important task when trying to find the right combination. Once you have taken the picture, review it on the camera's digital screen and decide if it looks too light, dark, or out of focus. Record the settings on your camera so you can go back to those settings for the next object. Once you have discovered a good combination, leave that setting on the camera. Combinations are unlikely to change for each object, unless you move or change the lighting. You should be able to use the same combination for similar objects when the lighting is the same. You will also want to keep notes about which objects you have photographed and which ones you have not.

WORKING WITH YOUR PHOTOS

After completing the photo shoot you need to move your pictures from the camera to your computer for editing and uploading to Maine Memory Network.

MOVING THE PHOTOS ONTO YOUR COMPUTER

1. Now you need to **move the images from your camera's memory card to your computer**. Remove memory card from the camera, and place it in a card reader (unless your camera can plug directly into your computer). Plug the card reader into your computer.
2. Make a new folder on your desktop for your new images. Look for the device icon on the screen (on a Mac) or for the card's drive letter in "My Computer" on a Windows computer.

Open the device or drive and select all the images. **Copy/paste or drag the files into the folder you just created**.

3. **Open the folder to confirm the images are there**. Eventually you will want to delete the images from the card. You can do this by manually deleting the images when the card is back in the camera or by loading the card into your computer the same way just described.

4. **Backup the folder of images** onto a disc, external hard drive, flash drive, or server to make sure the images you just photographed are saved in two locations.

EDITING AND CORRECTING THE PHOTOGRAPH

It is the goal of MMN to provide **a faithful representation of a historical item at the time it was digitally captured.**

Editing a digital file should be limited to making it look like the original. Editing should **not** include repairing tears, stains, markings, or any other blemishes on the original.

NOTE: Never edit your master scan. Make a copy of your master scan and edit the copy.

SHARPENING

Do not sharpen digital images of photographs or paintings.

ROTATING

Make sure that you square your items as best as you can **before** scanning or photographing. Rotating the image electronically is acceptable, Digital files that are crooked (not aligned square to the edge) will not be accepted in MMN.

CROPPING

In most instances you may need to crop your digital photograph to isolate the object and minimize the white space around it.

- *Manuscripts* should be photographed and cropped to show all edges.
- *Paintings* should be cropped so the frame is not included, unless the frame provides historical information.

▪ *Oversized photographs* can be cropped so borders, matting, and frames are not included, unless the border, mat, or frame includes historically important information. Ideally you should photograph the image so **all** edges are showing.

COLOR ADJUSTMENTS

The lights you used and the camera's internal settings may make your image look different than it does in real life. You should change the color to look like the original object and it's surroundings. There are usually automatic adjustments in software that can help with this. Auto Contrast, Auto Levels, or Auto Color Correction may work. You may want to adjust the saturation also. This can be done in your color correcting menus.

FILE NAMING

When you take your photos, your camera will give them a name such as IMG_001.jpg. Change that name to something useful. Use the accession or object identification number, if you have one. Otherwise give the file the name of the object, but do not get too lengthy. 15-20 characters is best. For objects that have detail shots, rename the file with "_detail" as a suffix, for example.

It's important to be consistent and to edit your images in a uniform way. All colors should look true to real life and the brightness, color and contrast should all be similar.

PHOTOGRAPHER'S NOTES

Photographer's Notes Example

Date: November 10, 2009

Photographer's Name(s): Joe Longfellow

Location: Biddeford High School

Project Name: Bidd. MCHP Team: Objects from Collection 1240

Object #	Description	Camera Setting	Notes	
12001	Ladies Gloves, ca. 1900	f/ 8 1/60	Put them on the lazy susan to show two angles.	√
12002	Children's Gloves, ca. 1900	f/8 1/50 1/60	Made a detail shot of the label inside the right glove.	√
12003	Children's Stockings, ca. 1890	f/8 1/40	Had to back up camera since they are so long.	
12004	Wine Glass, ca. 1920	f/ 5.6 1/125	Needed reflectors to help with the lighting the glass	
12005	Civil War Medal, ca. 1861	f/ 9 1/30 1/40	Pinned on board. Took a detail shot.	
12006	Oversized Photo of the MacArthur Library, ca. 1950	f/ 9 1/60	Used copy stand method	

PHOTOGRAPHER'S NOTES WORKSHEET

Date:

Photographer's Name(s):

Location:

Project Name:

Object #	Description	Camera Setting	Notes	

MORE INFORMATION

Visit the Share YOUR Local History section of the Maine Memory Network website,

www.MaineMemory.net.