

Using your Smartphone for Documenting by Marianne Skov Jensen

(updated 1/20/16)

The latest smartphones can produce beautiful high quality **printable** images making them excellent tools for documenting for the McDowell Sonoran Field Institute. *Really?* Yes! Just like a concert pianist can sit down with a toy piano and play beautiful music, you can make good quality images with ANY camera available to you. Your camera phone is not a toy; it is a very capable camera and if you think of as an instrument; learn everything about it and then, like the pianist, take time to practice, practice, PRACTICE, you will be pleasantly surprised how well it performs! Both iPhone and Android **excel at close up photography** which is especially useful for the field institute.

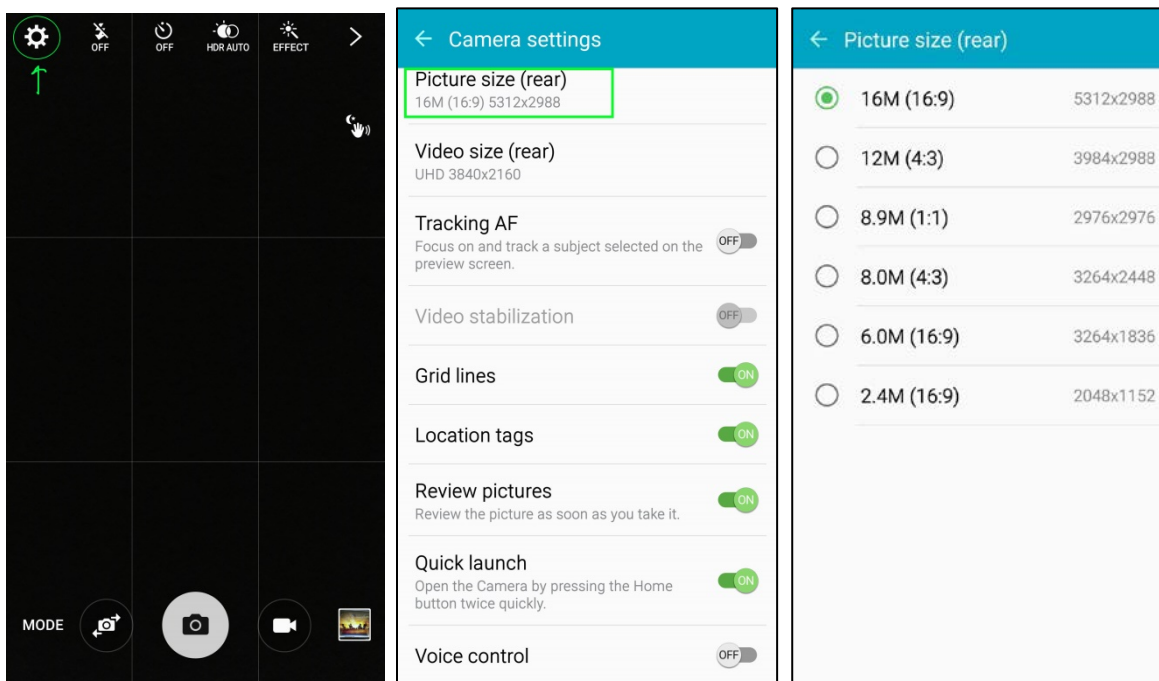
NOTE: Although the newest Android and iPhones have PRO shooting modes which allow you to adjust most exposure settings as you would on a 35mm, this tutorial will outline **basic** smartphone settings and include a brief “how to” take a photo for each phone followed by photography tips. **Go to page 3 for iPhone**

** If you're already comfortable with your Smartphone camera, skip ahead to **SMARTPHONE TIPS on Page 4** **

ANDROID SETUP: (Galaxy S6 featured)

First and Most Important: Set your smartphone to capture the highest resolution files possible. This will ensure your images are usable for printing. Open the camera app and click on the “gear” icon on the upper left and a list of options come up (below center). If you don't see a gear icon, click on the far upper right of the screen and the toolbar will come back.

Click on “Picture Size” and you'll be presented with a list of sizes (far right). Choose the largest size (top). Click the back button (to right of home button) to return to the options or click on the gear icon again if you are back at the camera. Once back at the options screen, make your other choices (see page 2).



Other options available the newest Android that I find useful are (see graphic on previous page):

- a. "Grid Lines" - Helps when composing your photo and keeping horizon or other things straight.
- b. "Location" – records GPS which you'll need for reporting (I turn off when shooting at home)
- c. "Review pictures" – Your image will appear after you take it letting you see if you need to try again.
- d. "Quick Launch" – double clicking the home button starts the camera even if you have a password

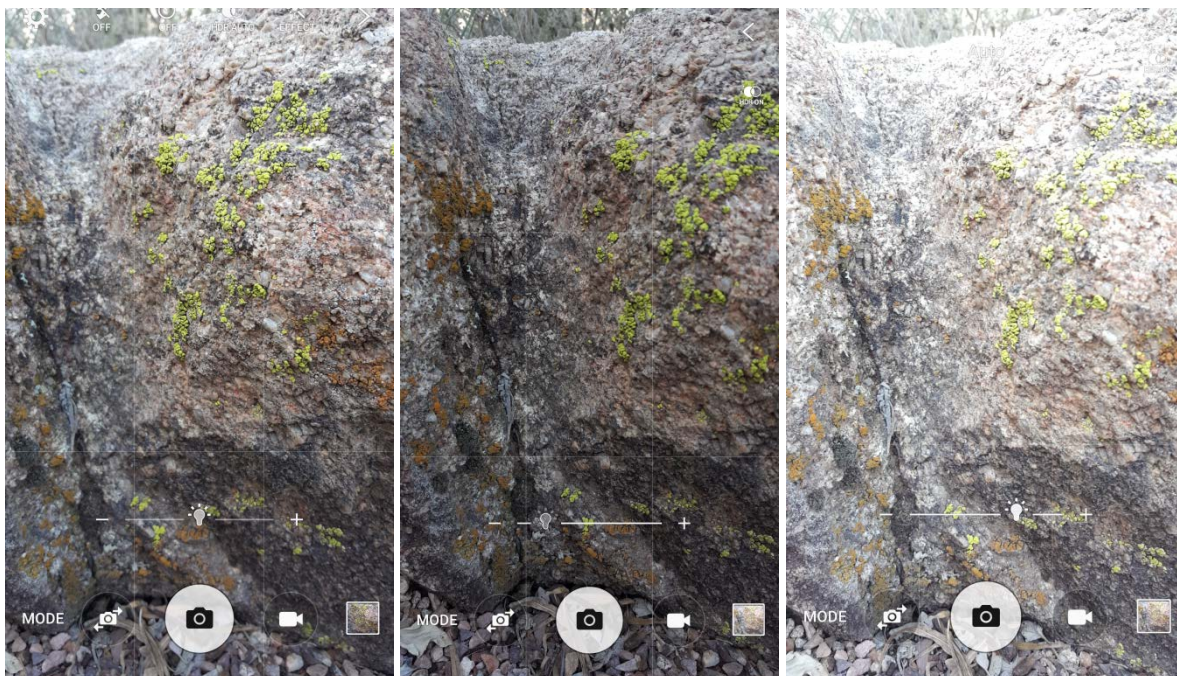
HOW TO TAKE A PHOTO: Check your lens for fingerprints and dust first! You could then just point and shoot but often the key to taking great photos is being able to adjust the lightness/darkness of your scene **before** you press the shutter. Called "**exposure compensation**", it allows you to adjust the lighting in your image. The latest Androids have two options for exposure compensation. (Pro mode has even more precise control)

Exposure Compensation method 1 affects the entire image:

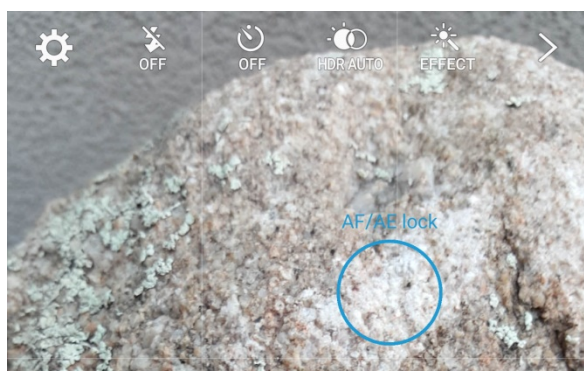
1. Touch screen in an area you consider most important. A slider bar will appear just above the camera icon. There is a lightbulb in the middle and a plus and minus mark on each end of the bar. (Photos below)

2. With the bar showing, drag your finger left and right across the screen to darken or lighten the scene.

Note: If the bar disappears, start over and it will come back. If you have set the option for a brief preview, your image will be displayed. **3.** If you are happy with it, press the shutter. If not, repeat these steps.



Method 2 for more precise adjustment: Press/hold on an area in the scene that is too light or too dark or on something you want to concentrate the focus on. A blue circle will appear with the words "AE/AF lock" above it. This is telling you the exposure and focus will be optimized for that area. Once the exposure and focus are locked, you can recompose without losing focus. When you have an exposure you like, press the shutter.

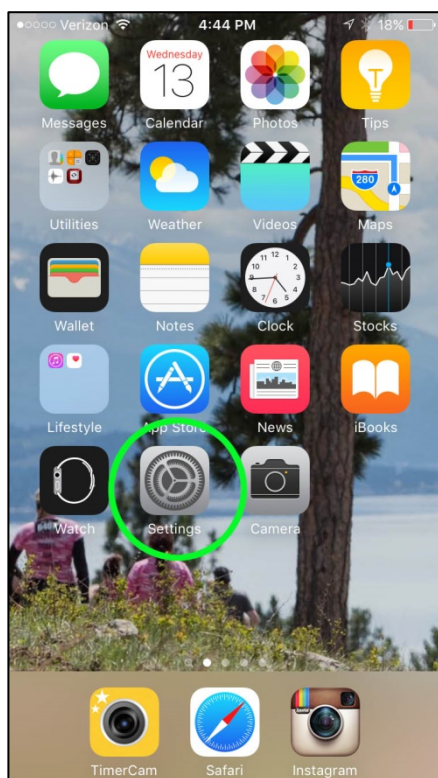


iPHONE SET UP: (model 6S featured) Like the Android, the native camera app on the iPhone offers all the basics you need and lots more. With the newest iPhone, the image file size is already set to the highest resolution and there are no others sizes available. Several other camera options are available but they are not as accessible as they are on the Android However, once you know where they are and choose what you want; you probably won't need to go back there.

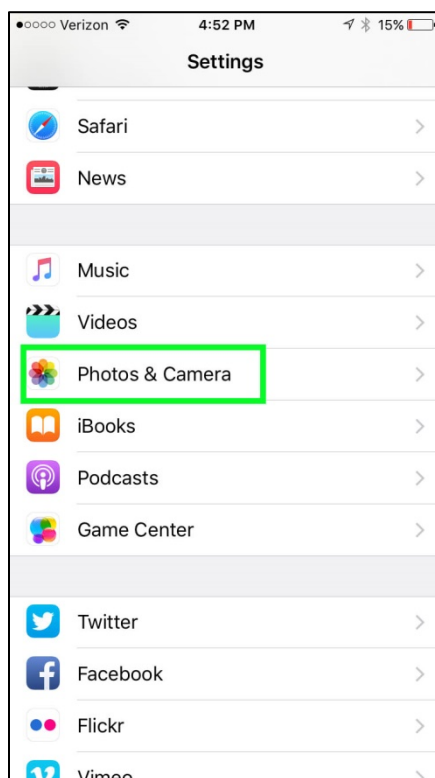
One option I find very useful is having a **grid** on my screen which is in the "rule of thirds" format. In art, it is said that having your subject in one of the cross sections of the grid (1/3s) makes an image more pleasing to the eye. Besides the artistic part, a grid also gives you a visual to help keep the horizon or other things straight.

To find and set iPhone options:

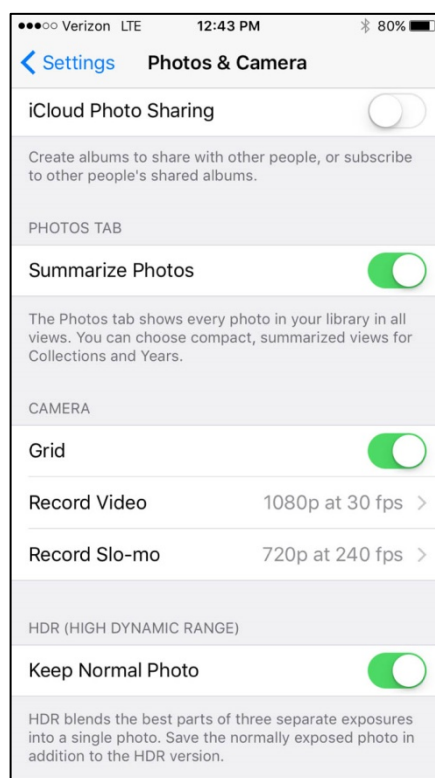
1. Click on the **Settings** icon.
2. Scroll down and click on **Photos & Camera**.
3. Choose your **options**.



1. Click on Settings icon



2. Click on Photos & Camera



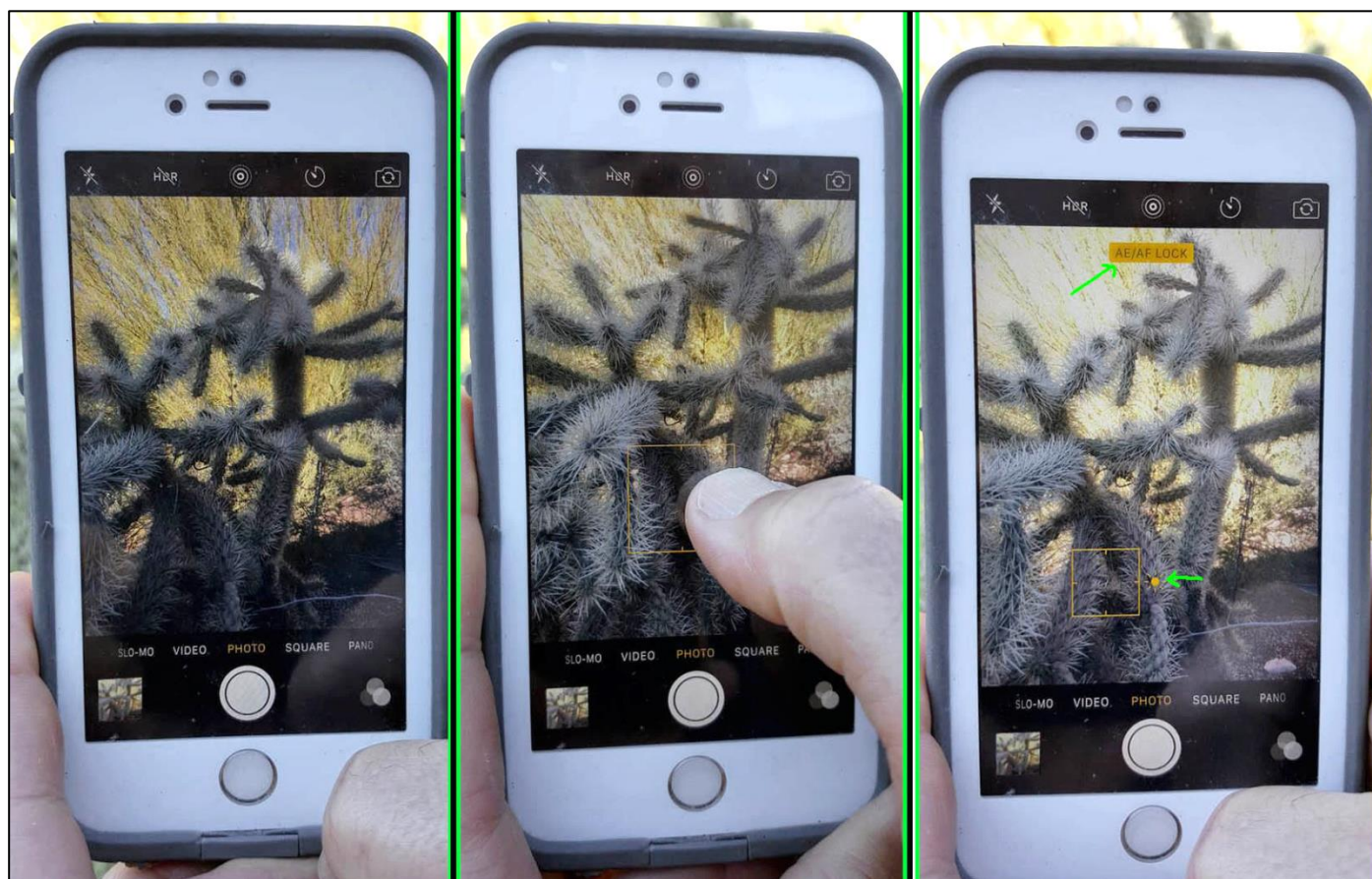
3. Choose your Options

4. There is a quick start option to start available on the iPhone too. Check your user guide on how to set it.

If you're confused by the meaning of each option, use Google to search for information. For instance, do a search for "what does Summarize Photos on the iPhone mean" or "suggested iPhone camera settings". Someone is bound to have asked your exact question so you will find an answer quickly.

HOW TO TAKE A PHOTO: You could just point and shoot, of course, but the key to taking good photos is being able to adjust the lightness/darkness of your scene **before** you shoot. This adjustment is called “exposure compensation”. (The pro mode has more precise control)

1. Always **check your lens first** to make sure it is clean. Fingerprints and dust can ruin photos.
2. Compose your scene. If you activated a screen grid, use it to help you compose.
3. Press/hold the screen on an area needing lighting adjustment and a box will appear around that area.
4. Continue pressing until you see “AE/AF LOCK” at the top of the screen and a **little sun** in the area you chose. **You can drag the sun up or down to change exposure.** If you’re not happy with the adjustment, repeat the process. If you are happy, press the shutter button. Notice the rest of the scene changes too. Once you have the exposure and focus locked, you can recompose without losing focus.



SMARTPHONE PHOTOGRAPHY TIPS

FOR BOTH iPhone and Android:

Once you have an image you are happy with, the next process is editing (if it needs it), saving and uploading to the MSFI. This is a big subject needing another tutorial but I will mention a couple of editing options.

Both phones have some simple editing tools but I recommend buying an app called **SnapSeed** which is available for BOTH iPhone and Android and available through your app store. The program is intimidating at first but it is actually very intuitive. Search YouTube videos tutorials for your phone. There are lots!

What I carry in my backpack:

1. **Pen/Pencil, Notepad and MSC business cards.** I usually take notes using an app on my Smartphone but the paper comes in handy when I meet people who want information. Hand out the MSC cards!
2. **GPS** unit but I also use location apps on my smartphone. (There are many available.)
3. A **six inch ruler.** I use it in photos to show scale. If I forget the ruler, I use a coin, finger or hand for scale
4. A **small mirror** or other reflective surface to direct light into dark areas. I rarely use flash since it can be very harsh and gives off unnatural light.
5. A **mini Leatherman Multi-tool and comb.** The pliers in the tool come in handy removing cactus spines
6. A **tripod** made for my phone but I typically use my knee, rocks or other things in the desert as a tripod.
7. A small **first aid kit** including **Wet Wipes** and **Tissue**
8. **Knee Pads** (I use a carabiner to clip them to my backpack)
9. **Plastic bag** for trash you find in the desert
10. Plenty of **water and snacks**... especially as the temperature rises

Your steward badge has **emergency numbers** on the back. Be sure you have the latest one

FOCUSING Tip: If your subject is moving (even slightly), the camera very often won't focus. Try this:

1. Position your hand near or behind your subject giving the camera something large to focus on.
2. Press the shutter button half way to focus.
3. Keeping your finger on the shutter button to hold focus, remove your hand. This works 99% of the time.



If you still can't focus after a few tries, you are **most likely too close** to your subject. Move back inch by inch until you can focus using one of the methods described.

LOW LIGHT TIP – The lower the light, the longer the shutter of the camera has to stay open and although the camera does have built in **image stabilization** (helps prevent movement), there will come a point when you will not be able to hold it still enough and you will get movement in your photo.

Tripods are ideal but there are many ways to hold your camera still. My favorite **natural tripods** are:



Shoe, Rock and Knee tripods

DOCUMENTING for the MSFI

Whether you are involved in a survey or if you have found something interesting on your own you think the MSFI might like to see, take photos as if you are telling a story. Do your best to include the following:

Documenting a Survey:

1. Context photos. Show the group participating and the location when you get to it.
2. Take wide angle photos and close up photos of the activity and of interesting discoveries.
When you are taking a close photo, get down low so you can include the background showing the landscape and/or stewards.

Documenting discoveries while on your own:

1. Start by taking context photos showing where you are and what is surrounding your discovery
2. Take photos from all angles if possible. Things can look very different depending on the view.
3. If your subject is a plant, include a ruler, coin or your finger/hand to show scale.
If your subject is a bird, insect or animal, try your best to get clear photos of all their markings.
4. Most important; record GPS coordinates. A screen capture of your GPS or location on a map app is ideal since it will be a visual record. Making notes of your location in your own words is also recommended.

EXAMPLES: Top Left and right: Survey Photos. Bottom left and right: Personal discoveries



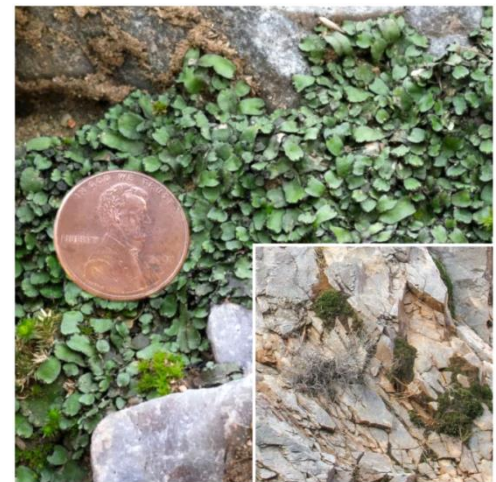
Ground Dwelling Insect Survey



Paraiso Quartz Geology Survey



Documenting Cloudless Sulphur Caterpillar. Top left is context image. Top Right shows one plant. Lower left show leaves & two caterpillars. Lower right side is close up of a caterpillar



Liverworts Close up and Context is the mossy cliff (inset)

HAPPY DOCUMENTING!