

Photos: Take, Organize, Edit, and Share

1. **What's the best camera?**
2. **How far photography has come on mobile devices**
 - 2.1. Once an afterthought on the earliest cell phones, the biggest changes in mobile devices from year-to-year now have to do with cameras and photography
 - 2.2. Hardware and software combine with computational photography to create images that used to require expensive equipment
 - 2.3. Machine learning helps locate and organize photos and suggest items to review and share
3. **Camera settings**
 - 3.1. Tap Settings > Camera; options will depend on your device
 - 3.2. General: Formats, set video and slo-mo speeds and quality, record stereo sound, preserve settings, use volume up for burst, scan QR codes, video format control (on some iPhones, to display toggles for frame rate and resolution when shooting video)
 - 3.3. Composition: Grid, mirror front camera, view outside the frame
 - 3.4. Photo capture: Prioritize faster shooting, Smart HDR, keep normal photo
4. **Take photos and videos**
 - 4.1. Tap Camera
 - 4.1.1. Green dot appears to show camera is in use
 - 4.2. Quicker access
 - 4.2.1. From the lock screen, swipe left to open the camera

- 4.2.1.1. Tap thumbnail in lower left-hand corner to view and edit photos and videos while device is locked
- 4.2.2. Open Control Center, tap Camera icon
- 4.3. Choose a mode
 - 4.3.1. Drag left-right (iPhone) or up-down (iPad) or tap or swipe the view finder
 - 4.3.2. Each mode has on-screen controls which may be hidden; tap arrow pointer at top center of screen to show/hide them
 - 4.3.3. Photo
 - 4.3.3.1. Flash
 - 4.3.3.1.1. Auto, On, or Off
 - 4.3.3.2. Night mode (iPhone 11 or later)
 - 4.3.3.2.1. Camera app automatically determines when light is low and enables Night Mode (or tap the Night Mode button)
 - 4.3.3.2.2. Screen will display recommended time the shutter is open; you can adjust this with the slider
 - 4.3.3.2.3. Tap the shutter button and hold the camera still while the timer counts down to zero
 - 4.3.3.3. Live Photo
 - 4.3.3.4. HDR (High Dynamic Range)
 - 4.3.3.4.1. Camera automatically takes several quick shots at different exposures and blends them together into one photo when it is most effective
 - 4.3.3.4.2. May be on by default

4.3.3.5. Dimensions

4.3.3.5.1. Square, 4:3, 16:9

4.3.3.6. Exposure Compensation Control (iPhone 11 or later)

4.3.3.6.1. Tap the \pm button and move the slider to adjust the exposure. The exposure locks until the next time you open the Camera app

4.3.3.7. Timer

4.3.3.7.1. Off, 3, or 10 seconds to let you get in the shot

4.3.3.8. Filter

4.3.3.8.1. Tap to apply before you shoot a photo or when editing

4.3.3.9. Swap camera

4.3.3.9.1. To choose the other camera

4.3.3.10. Thumbnail

4.3.3.10.1. View the photos and videos you've taken

4.3.3.11. Focus and Exposure

4.3.3.11.1. Automatic: a yellow rectangle will briefly appear

4.3.3.11.1.1. When photographing people, face detection balances the exposure across 10 faces

4.3.3.11.2. To set manually:

- 4.3.3.11.2.1. Tap an object or area on the screen to set focus and exposure; face detection is turned off
 - 4.3.3.11.2.2. To lock, touch and hold until the rectangle pulses
 - 4.3.3.11.2.3. To unlock, tap the screen
 - 4.3.3.11.2.4. To adjust exposure: Tap the viewfinder to see the sun icon next to the exposure rectangle. Drag sun icon up or down to adjust
- 4.3.3.12. Zoom in or out
- 4.3.3.12.1. Photos can get more grainy with digital zoom
 - 4.3.3.12.2. Best to stick with optical zoom (and crop photos) or move closer to your subject
 - 4.3.3.12.3. Pinch and spread the image on the screen
 - 4.3.3.12.4. Tap zoom controls to switch between optical zoom settings—or touch and hold, and drag to select a zoom setting
- 4.3.3.13. Take photo
- 4.3.3.13.1. It's the big white button; tap it

- 4.3.3.13.2. Or use either volume button as shutter trigger
- 4.3.3.13.3. Only on iPhone 11: When using the selfie (front-facing) camera, tap the arrows to increase the field of view
- 4.3.3.14. QuickTake video (iPhone XR and later)
 - 4.3.3.14.1. Touch and hold the shutter button to start recording a QuickTake video
 - 4.3.3.14.2. Slide shutter button to right and over the lock and let go for hands-free recording
- 4.3.3.15. Take burst shots
 - 4.3.3.15.1. Rapid-fire photos, great for sports
 - 4.3.3.15.2. Different shutter sound
 - 4.3.3.15.2.1. On iPhone 11 or later, swipe shutter button to left
 - 4.3.3.15.2.2. On other iPhones, touch and hold the shutter button
 - 4.3.3.15.3. Counter shows how many shots you've taken
 - 4.3.3.15.4. Reviewing the shots:
 - 4.3.3.15.4.1. Tap thumbnail
 - 4.3.3.15.4.2. Tap Select

- 4.3.3.15.4.3. Gray dots mark best suggested photos
- 4.3.3.15.4.4. Tap circle to mark photos to keep
- 4.3.3.15.4.5. Tap Done and tap the keep option that appears

4.3.4. Panoramic

- 4.3.4.1. Orient the camera, either portrait or landscape
 - 4.3.4.1.1. To shoot vertically, but iPhone in landscape orientation
- 4.3.4.2. Tap the arrow to reverse direction
- 4.3.4.3. Tap shutter button
- 4.3.4.4. Pan slowly
- 4.3.4.5. Keep arrow on the yellow line
- 4.3.4.6. Note the prompts on the screen

4.3.5. Time lapse

- 4.3.5.1. Set up the camera for a sunset, clouds, burning candles, or a flower opening—best with a tripod
- 4.3.5.2. Lock focus and exposure by touching and holding until rectangle pulses (AE/AF LOCK label will appear)
- 4.3.5.3. Tap red record button
- 4.3.5.4. Camera will take a photo every so often, and assemble them into a video
- 4.3.5.5. Be prepared to wait; consider plugging device in to power

4.3.6. Video

4.3.6.1. Controls

4.3.6.1.1. Flash

4.3.6.1.2. Swap camera

4.3.6.1.2.1. To choose the other camera

4.3.6.1.3. Counter

4.3.6.1.3.1. Shows how long the video clip is

4.3.6.1.4. Quality and speed

4.3.6.1.4.1. Tap to change (on some iPhones)

4.3.6.1.5. Thumbnail

4.3.6.1.5.1. View the photos and videos you've taken

4.3.6.2. Exposure

4.3.6.2.1. It's automatic

4.3.6.2.1.1. A yellow rectangle briefly appears where the exposure is set (except iPhone 6 and 6 Plus)

4.3.6.2.1.2. When photographing people, face detection balances the exposure across 10 faces

4.3.6.2.2. To set manually:

- 4.3.6.2.2.1. Tap an object or area on the screen to set focus and exposure; face detection is turned off
 - 4.3.6.2.2.2. To lock, touch and hold until the rectangle pulses
 - 4.3.6.2.2.3. To unlock, tap the screen
 - 4.3.6.2.2.4. To adjust exposure: Tap to see sun icon next to the exposure rectangle; Drag the sun icon up or down to adjust
- 4.3.6.3. Zoom in or out
- 4.3.6.3.1. Pinch and spread the image on the screen
 - 4.3.6.3.2. Videos and images can get more grainy with digital zoom
 - 4.3.6.3.3. Tap zoom controls to switch between optical zoom settings—or touch and hold, and drag to select a zoom setting
- 4.3.6.4. Start recording
- 4.3.6.4.1. It's the big red button; tap it
 - 4.3.6.4.2. Tap again to stop
 - 4.3.6.4.3. Or use volume buttons to start and stop

4.3.6.4.4. Tap white shutter button to take a photo while shooting video

4.3.7. Slo-Mo

4.3.7.1. Hi-Def video

4.3.7.2. Start recording

4.3.7.2.1. It's the big red button; tap it

4.3.7.2.2. Tap again to stop

4.3.7.2.3. Or use volume buttons to start and stop

4.3.7.2.4. Take a photo with the shutter button while recording slo-mo

4.3.7.3. Adjusting slo-mo

4.3.7.3.1. Tap the thumbnail

4.3.7.3.2. Tap the video to open it

4.3.7.3.3. Tap Edit

4.3.7.3.4. Use the vertical bars above the frame viewer to set the section to play back in slow motion (tick marks with extra space indicates slow motion)

4.3.7.4. iPhone 11 or later only: Slo-mo using front-facing camera

4.3.7.4.1. Slofies!

4.3.8. Portrait (iPhone 7 Plus, 8 Plus or later)

4.3.8.1. Focuses camera on person, pet, or object close to it, blurring the background

4.3.8.2. Use varying light effects

- 4.3.8.2.1. High-key Light Mono only supported on iPhone 11, iPhone XS, iPhone XR
- 4.3.8.2.2. On iPhone XR, Stage Light, Stage Light Mono, and High-Key Light Mono are only available when you use the front-facing TrueDepth camera
- 4.3.8.3. On iPhone XR or later:
 - 4.3.8.3.1. Tap the Light button, then use the slider to adjust the effect of the light
 - 4.3.8.3.2. Tap the f button, then use the slider to adjust the level of depth (background blur)
- 4.3.8.4. Tap the shutter button to take the shot
- 4.3.9. Screenshots
 - 4.3.9.1. Simultaneously press and release the Sleep/Wake and Home buttons (or on device with no home button, press the Sleep/Wake and volume up buttons simultaneously)
 - 4.3.9.2. Markup and share

5. **iCloud Photos: All your photos...everywhere**

- 5.1. Consistent approach on all devices
- 5.2. Tied together with iCloud
- 5.3. Importing, Organizing, Editing, Sharing, and Projects (on the Mac)

6. **What you need**

- 6.1. MacOS 10.10.3 or later
- 6.2. iOS 8.3 or later
- 6.3. Ideally: Get current. It might require an OS update.

7. **What's iCloud?**

7.1. In general

- 7.1.1. iCloud connects your devices and data, lets you share information with friends and family, helps you find your devices, and more
- 7.1.2. Not just a big hard disk in the sky; it does storing and syncing
- 7.1.3. 5 GB of storage for free; you can buy more
- 7.1.4. It just works, and on PC's, too, via iCloud for Windows:
- 7.1.5. <<https://support.apple.com/en-us/HT204283>

Storage	Per month
5 GB	Free
50 GB	99¢
200 GB	\$2.99
2 TB	\$9.99

7.2. Services for Photos

- 7.2.1. Things to consider before you begin

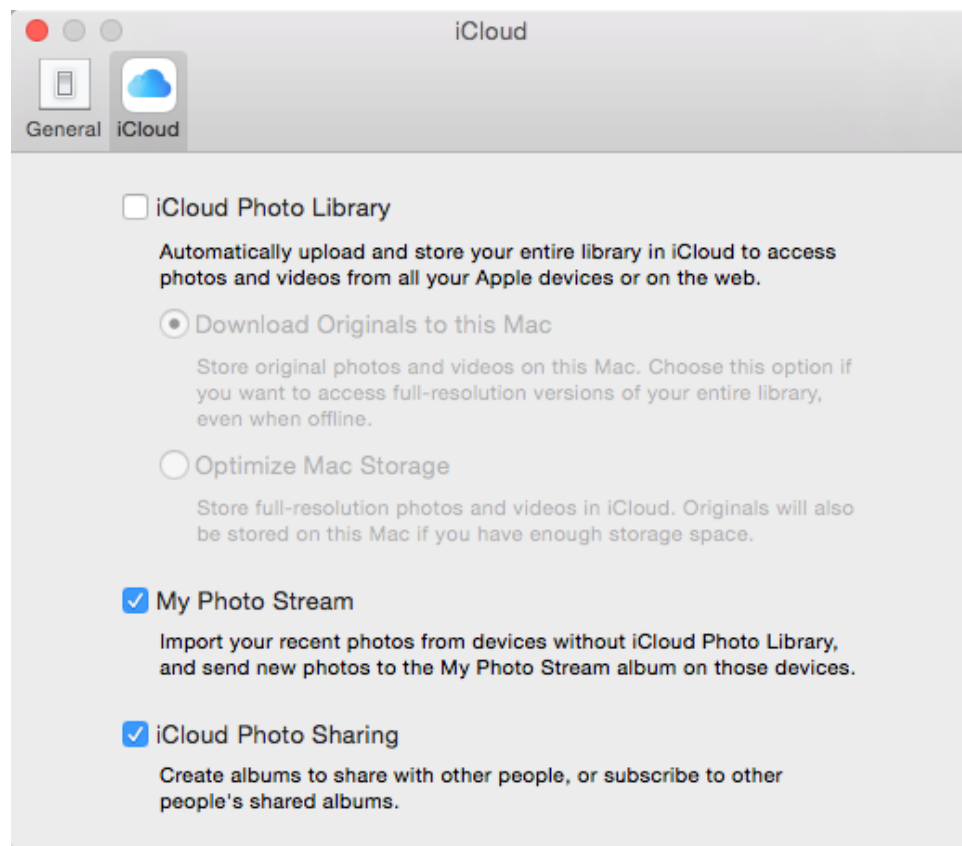
- 7.2.1.1. Edit your library. Get rid of duplicate, blurry, unwanted photos. They take space to store and time to upload...and download.
 - 7.2.1.2. Have enough space? The free 5 GB on iCloud is probably not enough. Consider buying more space, especially if you have multiple devices.
 - 7.2.1.3. Where to store full-resolution original photos? Your Mac and iCloud will likely have more storage space than your iOS device.
 - 7.2.1.4. Where to upload from? Do the initial upload from the device that has most of your photos, either your Mac or your iOS device.
 - 7.2.1.5. Set aside time. The initial upload takes a while. High speed ethernet is better than wi-fi.
- 7.2.2. iCloud Photos
- 7.2.2.1. Stores all your photos and videos in original, full-resolution formats and keeps them up to date on all devices—iPhone, iPad, iPod Touch, Mac, PC, and iCloud.com
 - 7.2.2.2. Edits updated everywhere
 - 7.2.2.3. Photos stay organized (days, months, years, albums, favorites, etc.)
- 7.2.3. My Photo Stream
- 7.2.3.1. Photos—but not videos or Live Photos—you take are automatically uploaded over Wi-Fi
 - 7.2.3.2. Photo Stream stores 1000 photos for 30 days....
 - 7.2.3.3. ...and they don't count toward your iCloud storage limit
 - 7.2.3.4. Use this for devices without iCloud Photos turned on

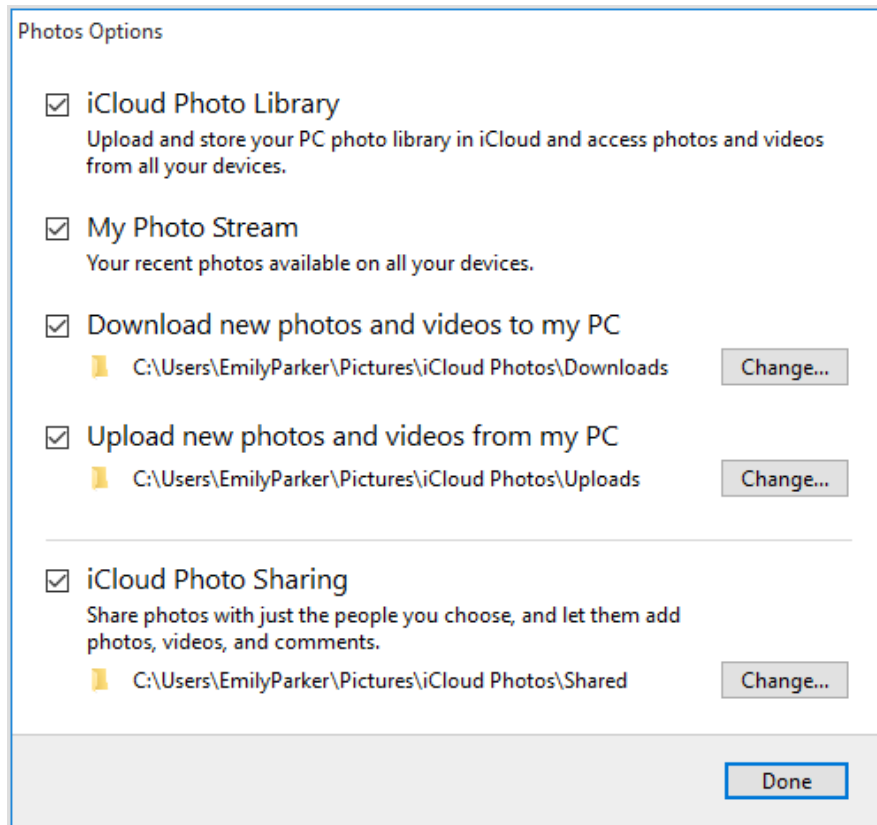
7.2.4. Shared Albums

7.2.4.1. Create shared albums up to 100 others can add to

7.2.4.2. Shared albums do not count against iCloud storage limit

7.2.4.3. Also viewable on Apple TV





8. Photos

8.1. Settings

- 8.1.1. Siri & Search: Settings all probably on by default
- 8.1.2. iCloud Photos settings are repeated here
- 8.1.3. Hidden Album
- 8.1.4. Cellular data
- 8.1.5. Auto-Play Videos and Live Photos
- 8.1.6. View Full HDR on the screen
- 8.1.7. Memories—Show Holiday Events
- 8.1.8. Format of photos and videos when transferring to Mac or PC

- 8.2. iPadOS 14 interface uses a sidebar for navigation in landscape orientation; swipe the sidebar in when in portrait orientation

9. Library

- 9.1. A structure we can understand: Years, Months, Days, All Photos
- 9.2. Tap an item to go deeper, use back button to reverse
- 9.3. When looking at All Photos...
 - 9.3.1. Tap aspect button (iPad only) to see the thumbnails of the photos and videos in their actual dimensions (rather than a mosaic of squares)
 - 9.3.2. Tap More (...) button to zoom in and out, change the aspect ratio, filter the photos shown, show the photos on a map
 - 9.3.3. Tap Select to pick individual items to delete or share
 - 9.3.4. Tap a photo or video to...
 - 9.3.4.1. See it full screen
 - 9.3.4.1.1. Swipe left and right to move through the items
 - 9.3.4.1.2. Pinch or double tap to zoom in and out
 - 9.3.4.2. Share it (with all the usual options)
 - 9.3.4.3. Make it a favorite by tapping the heart button
 - 9.3.4.4. Delete it
 - 9.3.4.4.1. Photo is moved to Recently Deleted album
 - 9.3.4.4.2. Photos are automatically deleted after 30 days. They can be immediately deleted or recovered.

9.4. When looking at Years...

- 9.4.1. Photos displays pictures from roughly the current date in previous years. For example, in October, it might show Halloween pictures

9.5. When looking at Months and Days...

- 9.5.1. Videos and live photos will animate

- 9.5.2. Tap the More (...) button to share photos or play a memory movie (if there are enough photos/videos available)

- 9.5.3. Share sheet

- 9.5.3.1. Recommends people to share photos with based on who is in the photos or recent people you've communicated with

- 9.5.3.2. Share via AirDrop, Messages, Mail, Notes, etc.

- 9.5.4. Tap Play Memory Movie and Photos will build a movie and add music and transitions

- 9.5.4.1. Tap the movie while it is playing to change the music, shorten or lengthen the movie (if there are enough photos/videos available)

- 9.5.4.2. The Share button allows you to share the movie with others, AirPlay the movie via an Apple TV, save the video, add it to a Shared Album, Add it to Files, etc.

- 9.5.5. Tap Edit to add the movie to Memories where it can be edited further (changing the name, music, etc.)

9.6. When looking at Days...

- 9.6.1. Tap Select to pick individual items to delete or share

- 9.6.2. Tap the More (...) button to share photos, play a movie (if there are enough photos/videos available), or show the photos on a map

10. Editing

- 10.1. Original photo is preserved; you can always revert to it. Changes are made to the photo throughout your photo library.
- 10.2. Tap a photo, then tap Edit
- 10.3. Adjust controls
 - 10.3.1. Auto—One tap to make the picture look as good as possible
 - 10.3.2. Exposure—Drag the slider to change the exposure
 - 10.3.3. Brilliance—The intensity of light reflected from the surface
 - 10.3.4. Highlights—A bright spot in a photograph
 - 10.3.5. Shadows—The darkest parts of an image
 - 10.3.6. Contrast—Differences between colors in an image
 - 10.3.7. Brightness—Just what you think
 - 10.3.8. Black Point—Use to add improved contrast and vibrancy to images
 - 10.3.9. Saturation—The depth or intensity of color
 - 10.3.10. Vibrance—Increases intensity of muted colors and leaves well-saturated colors alone
 - 10.3.11. Warmth—Make the image more brown (warm) or more blue (cool)
 - 10.3.12. Tint—A single overall color underlies an image
 - 10.3.13. Sharpness—Overall clarity interns of both focus and contrast
 - 10.3.14. Definition—Your guess is as good as mine
 - 10.3.15. Noise reduction—To remove what appears to be noise in a photo by blurring it
 - 10.3.16. Vignette—Adds shadow or light to the corners of an image

10.3.17. Tap the photo or the control to see the difference between the original photo and the edited version

10.4. Filters

10.4.1. Apply a filter to a photo after it has been taken

10.4.2. Use slider to adjust the intensity of the filter

10.4.3. Tap photo to compare the changes

10.5. Crop and Rotate

10.5.1. Straighten—Great for horizon shots; will happen automatically when the tool is selected

10.5.2. Perspective—Change the apparent angle of a photo

10.5.3. Flip an image horizontally

10.5.4. Rotate a photo clockwise in 90° increments

10.5.5. Tap Auto crop to let Photos crop an image

10.5.6. Tap the resize button to pick common dimensions and orientations (vertical, horizontal) for cropping animate

10.5.7. Manually crop by dragging the sides or corners of the frame. Move the image by dragging it within the frame.

10.6. Red eye—Will appear if red eyes might be in the image. Tap to remove red eye.

10.7. More (...)

10.7.1. Other image editing apps on your device can be used to apply an effect that Photos doesn't have. Changes are saved to the image

10.7.2. Markup can be used to draw on an image

10.8. Editing Live Photos

10.8.1. Open a Live Photo and tap Edit

10.8.2. Tap the Live Photo button

- 10.8.2.1. To change the key photo, move the white slider and tap Make Key Photo, then tap Done
- 10.8.2.2. Trim a Live Photo by dragging either end of the frame viewer to choose the frames that Live Photo plays
- 10.8.2.3. Tap the Live button to convert the Live Photo to a still of its key photo
- 10.8.2.4. Tap the speaker button to mute the audio in a Live Photo
- 10.8.2.5. Swipe the Live Photo up to choose effects for a Live Photo (Live, Loop, Bounce, or Long Exposure)
- 10.8.2.6. Also see the Place that the Live Photo was taken as well as a link to other photos that were taken nearby

10.9. Editing Portrait mode photos

- 10.9.1. Tap a Portrait photo
- 10.9.2. Tap Edit
- 10.9.3. Tap the Portrait button (it looks like a cube)
 - 10.9.3.1. Drag the lighting effect button to choose a different effect
 - 10.9.3.2. Tap the *f* button to change the depth of the photo
 - 10.9.3.3. Tap the Portrait button at the top of the screen to remove the Portrait effect

10.10. Trimming videos

- 10.10.1. Select the video and tap Edit

- 10.10.2. Swipe from either end of the timeline to activate the yellow selection handles.
 - 10.10.3. Drag the yellow selection handles on either end and tap Done
 - 10.10.4. Use the More (...) button to edit the video in another app (such as iMovie)
- 10.11. After finishing edits, tap revert to discard all edits and return to the original image

11. For You

- 11.1. Featured Photos, Memories, Shared Album activity, Effect Suggestions
 - 11.1.1. Photos creates Memories automatically, capturing photos from various time frames, holidays, and locations. It's a great way to rediscover big events or memorable moments.
 - 11.1.2. Touch and hold a memory to make it a favorite, delete it, or suggest fewer like it
 - 11.1.3. Tap a Memory
 - 11.1.3.1. Tap More (...) to share photos, add to Favorite Memories, delete a Memory, or suggest fewer memories like that one
 - 11.1.3.2. To play a memory movie, tap it.
 - 11.1.3.2.1. Once the movie is playing, tap it to change the mood music and length
 - 11.1.3.2.2. Tap Share to share it in all the usual ways
 - 11.1.3.2.3. Tap Edit to change the title, title image, the photos and videos used in

the movie, the music, and the duration

- 11.1.3.3. Scroll up to see photos and videos in the memory, as well as groups and people, and related memories
- 11.1.3.4. Activity in shared albums you create or subscribe to will appear in For You
- 11.1.3.5. Suggestions for sharing photos will also occur as will effect suggestions for certain images

12. Albums

12.1. Some albums are created automatically: People, Places, Live Photos, Panoramas, Videos, Selfies, etc.

12.2. Make an album

12.2.1. Tap Albums (or All Albums is the iPad sidebar)

12.2.2. Tap the + button

12.2.3. Tap New Album

12.2.4. Name your new Album and tap Save

12.2.5. Tap photos or videos to add

12.2.6. Tap Done

12.2.7. Tap the More (...) button for options, including Playing a Memory Movie, making a slideshow, etc.

12.2.8. Tap the slideshow or movie to edit it, change options, AirPlay it to Apple TV, share it, etc.

12.3. To edit the contents of the album, open the album and...

12.3.1. Tap Select

12.3.2. Tap the items you want to delete or share, then tap delete or share

12.3.3. Tap Add to select more items to add to the album

12.4. Make a shared album

12.4.1. Share albums on iCloud and let others view, contribute, and comment them

12.4.1.1. Tap Albums (or All Shared Albums in iPad sidebar)

12.4.1.2. Tap the + button

12.4.1.2.1. On iPhone, tap New Shared Album

12.4.1.3. Name your new Shared Album and tap Next

12.4.1.4. Add people to share the album with, preferably using the email address associated with their Apple ID. They'll receive an invitation to subscribe to the shared album.

12.4.1.5. Tap Create

12.4.1.6. Tap the new shared album and then tap + to select items to put in the shared album

12.4.1.7. Subscribers can like and comment on photos.

12.4.1.8. Settings for shared albums

12.4.1.8.1. Open a shared album

12.4.1.8.2. Tap People

12.4.1.8.3. Allow subscribers to post

12.4.1.8.4. Allow non-Apple users to see the shared album on a webpage within your iCloud account

12.4.1.8.5. Get notifications when subscribers like, comment on, or add items to the shared album

12.5. Subscribe to a shared album

12.5.1. Respond to an email invitation you receive

12.5.2. Look for invitation in Shared area

12.6. Unsubscribe to a shared album

12.6.1. Open the album, tap People, tap Unsubscribe

12.7. Comment on a photo

12.7.1. Open the photo. Tap the Like button to Like a photo; Tap Add a comment... type your comment, and tap Send. The shared album's owner will receive a notification

13. People album

13.1. Photos scans your library for faces you can name

13.1.1. Photos you label on one device are labeled on others through iCloud

13.2. Tap People; On iPhone: Tap Albums, then tap the People album

13.3. To add more people

13.3.1. Find a picture of someone you want to add

13.3.1.1. Swipe up on photo

13.3.1.2. Tap the thumbnail

13.3.1.3. Tap Add Name and enter the person's name or tap it in the list

13.3.1.4. Tap Next, tap Done

13.4. Use the More (...) button to...

13.4.1. Make someone a favorite

13.4.2. Remove someone from the People album

13.4.3. Add this person's photos to Memories

13.4.4. Confirm Additional Photos

13.4.4.1. Tap Yes or No to confirm the person's identity

13.4.4.2. Click Done when you've had enough

13.5. To remove a mis-identified photo or make a new Key Photo:

13.5.1. Touch and hold a photo, then tap Not This Person, or Make Key Photo

13.6. To view locations of photos or see related photos, scroll to the bottom of the people album

14. Places album

14.1. Photos taken with a camera that has GPS (such as an iPhone) will automatically add location data to photos.

14.2. Tap the Places album; locations of photos show up on a map

14.3. Pinch to zoom in or out on the map

14.4. Tap an icon to see photos from a particular location

15. Recently Deleted album

15.1. Deleted items stay here for 30 days before self-deleting. You can recover items or delete them immediately

16. Search

16.1. Search by date, keyword, people, places, categories in your photos

16.2. Tap Search; Photos will offer suggestions

16.3. Use Siri

16.3.1. Show me all photos from Canada

16.3.2. Show me pictures taken in the last two weeks

16.3.3. Show me pictures with snow and mountains

16.3.4. Show me pictures from the Oakland Zoo

17. Help

17.1. iPhone or iPad User Guide in Bookstore within Books app

17.2. Me: Mike Matthews, mamatthews@icloud.com, 925-876-4098

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9/19/2020