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The True Cost of a Photo: Photo and Video Storage Capacity Across iPhone Tiers and Formats

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Preprint · https://cleanor.app/blog/how-many-photos-fit-in-your-phone-storage-capacity

ABSTRACT

A 128 GB iPhone holds about 37,000 photos, if you shoot in the default HEIC format. Switch to 48-megapixel ProRAW and the same phone holds only about 1,500. The format you choose changes how much fits by roughly 25 times, and it matters more than the storage tier you paid for. Here is what a photo and a minute of video actually cost in storage, and how many fit in every iPhone size, after the space your phone quietly keeps for itself.

0.1 Download the full study as a PDF

Prefer a formatted, citable reference? This study is also available as a journal-style PDF, *"The True Cost of a Photo,"* with the full capacity tables, sources, and the raw dataset as CSV. → **Download the PDF (journal format)**

Keywords: how many photos fit in 128gb, iphone photo storage, photos per gb, how much video fits in 128gb, iphone storage guide

KEY FINDINGS

- A 128 GB iPhone has about 112 GB actually usable. It holds roughly 37,000 HEIC photos, 22,400 JPEGs, 4,500 48-megapixel HEIF photos, or only about 1,500 in 48-megapixel ProRAW.
- The same 128 GB holds about 31 hours of 1080p video, 11 hours of 4K at 30 fps, 4.7 hours of 4K at 60 fps, or just 19 minutes of ProRes 4K (which uses about 6 GB per minute).
- Format beats capacity. Shooting HEIC instead of ProRAW multiplies how many photos fit by about 25 times, more than the difference between a 128 GB and a 512 GB phone.
- A "128 GB" phone is not 128 GB to you. About 7 percent is lost to how storage is counted, and iOS plus system data takes another 8 to 15 GB.
- To fit more without paying for a bigger phone: keep the default HEIC format, reserve ProRAW and ProRes for shots that need them, and clear duplicates and large videos rather than buying storage.

1. How many photos fit in your iPhone

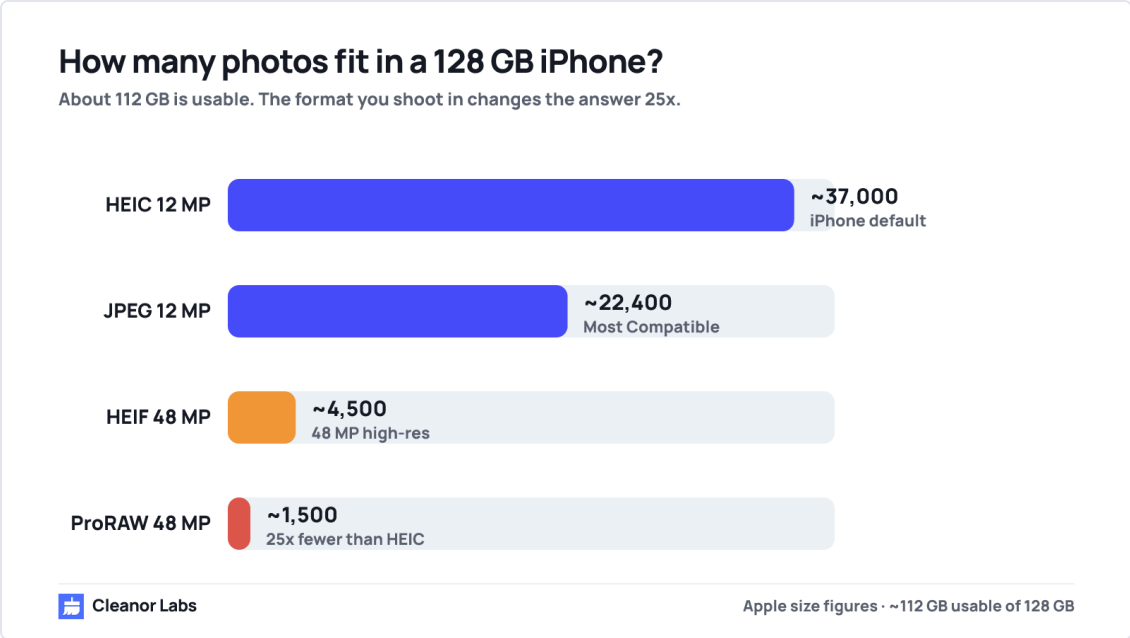

Figure 1. A 128 GB iPhone with about 112 GB usable holds roughly 37,000 HEIC photos, 22,400 JPEGs, 4,500 48-megapixel HEIF photos, or only 1,500 in 48-megapixel ProRAW: a 25x swing from format choice.

Using representative per-photo sizes and the usable space actually available on each tier, here is how many photos fit:

Format (typical size)	64 GB	128 GB	256 GB	512 GB
HEIC, 12 MP (~3 MB)	16,700	37,300	76,000	155,300
JPEG, 12 MP (~5 MB)	10,000	22,400	45,600	93,200
HEIF, 48 MP (~25 MB)	2,000	4,480	9,120	18,640
ProRAW, 48 MP (~75 MB)	667	1,493	3,040	6,213

These are ceilings, assuming the phone holds nothing but photos. In practice apps, messages and video share the space. But the ratios hold: your format choice is the biggest single lever on how many photos you can keep.

2. First, your phone is smaller than the box says

The "128 GB" on the box is not what you get. Two things shrink it. First, storage is advertised in decimal gigabytes (1 GB = 1,000,000,000 bytes), while the device formats and counts in binary, which alone removes about 7 percent. Second, iOS itself, plus preinstalled apps and the ever-growing System Data cache, occupies roughly 8 to 15 GB. The result:

Advertised	Actually usable (approx.)
64 GB	~50 GB
128 GB	~112 GB
256 GB	~228 GB
512 GB	~466 GB

A 64 GB phone gives you only about 50 GB to work with, which is why the entry tier fills so fast. Every capacity number in this study is calculated against the usable figure, not the number on the box.

3. What one photo actually costs

The size of a single photo depends almost entirely on format and resolution, not the scene:

Photo type	Typical size	Notes
HEIC, 12 MP	~3 MB	iPhone default ("High Efficiency"), roughly half a JPEG
JPEG, 12 MP	~5 MB	"Most Compatible" setting
HEIF, 48 MP	~25 MB	Full-resolution 48-megapixel capture
ProRAW, 12 MP	~25 MB	Apple: approximately 25 MB
ProRAW, 48 MP	~75 MB	Apple: approximately 75 MB

The jump from HEIC to 48-megapixel ProRAW is a factor of 25. A single ProRAW shot costs as much space as 25 ordinary photos. That is why leaving the camera in ProRAW "just in case" can quietly fill a phone in a weekend. Our own HEIC benchmark shows the same effect in the other direction: converting HEIC to JPG or PNG inflates every photo you already have.

4. And a minute of video

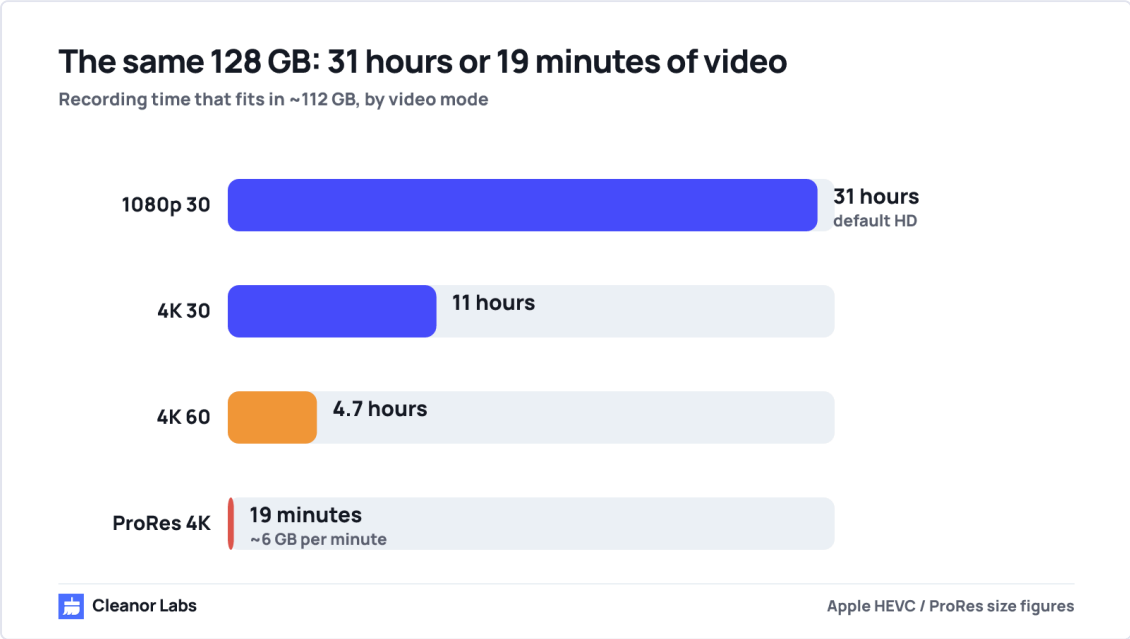

Figure 2. The same 128 GB iPhone holds about 31 hours of 1080p video, 11 hours of 4K/30, 4.7 hours of 4K/60, but only 19 minutes of ProRes 4K, which uses about 6 GB per minute.

Video is where storage disappears fastest. At Apple's HEVC sizes, one minute costs about 60 MB at 1080p/30, 170 MB at 4K/30, and 400 MB at 4K/60. ProRes is in another league at about 6 GB per minute. Across tiers:

Video mode (size/min)	64 GB	128 GB	256 GB	512 GB
1080p 30 fps (~60 MB)	13.9 h	31.1 h	63.3 h	129.4 h
4K 30 fps (~170 MB)	4.9 h	11.0 h	22.4 h	45.7 h
4K 60 fps (~400 MB)	2.1 h	4.7 h	9.5 h	19.4 h
ProRes 4K (~6 GB)	8 min	19 min	38 min	78 min

The same 128 GB that holds a full day of 1080p footage holds only 19 minutes of ProRes. This is why Apple limits internal ProRes 4K recording to the larger storage tiers.

5. How to fit more without paying for a bigger phone

1. Keep the default HEIC format. It is about half the size of JPEG for the same photo, so it roughly doubles how many photos fit. Settings, Camera, Formats, High Efficiency.
2. Use ProRAW and ProRes only when you need them. They are made for editing latitude, not everyday shots; left on by default they cost 25 times the space.
3. Prefer 4K/30 over 4K/60 for normal clips. It halves the size for footage most people cannot tell apart.
4. Clear the real waste, not the format. Duplicate and near-duplicate photos, screenshots, and forgotten large videos reclaim far more than fiddling with quality. This is exactly what Cleanor's storage tools are built to find.

6. Method and sources

Per-item sizes are documented, representative figures for recent iPhones, not our own captures (re-encoding already-

compressed sample photos would understate camera-original sizes). Apple publishes the ProRAW figures (approximately 25 MB at 12 MP and 75 MB at 48 MP) and the ProRes figures (approximately 1.7 GB per minute at 1080p and 6 GB per minute at 4K); the HEVC video sizes (60 to 400 MB per minute) are Apple's own in-device figures; HEIC, JPEG and 48-megapixel HEIF sizes are representative values that converge across 2026 reports and are consistent with Apple's ProRAW ratios. Usable-storage figures reflect decimal-to-binary formatting (about 7 percent) plus 8 to 15 GB for iOS and system data. Capacity is usable space divided by item size; the full model and every number are in the downloadable CSV. Real-world capacity is lower because apps and messages share the space.

7. Frequently asked questions

How many photos can 128 GB hold? About 37,000 photos in the iPhone default HEIC format (roughly 3 MB each), on the ~112 GB actually usable of a 128 GB phone. In JPEG it is about 22,400, and in 48-megapixel ProRAW only about 1,500.

How many photos fit in 64 GB? About 16,700 HEIC photos or 10,000 JPEGs, based on roughly 50 GB usable after formatting and iOS on a 64 GB device.

Why does my 128 GB iPhone show less than 128 GB? Two reasons: storage is advertised in decimal gigabytes but counted in binary (about 7 percent smaller), and iOS plus preinstalled apps and System Data take another 8 to 15 GB. You typically end up with about 112 GB usable.

How much video can 128 GB hold? Roughly 31 hours of 1080p at 30 fps, 11 hours of 4K at 30 fps, 4.7 hours of 4K at 60 fps, or only about 19 minutes of ProRes 4K, which uses about 6 GB per minute.

What is the best way to fit more photos on my phone? Shoot in HEIC rather than JPEG (about double the photos), avoid leaving ProRAW or ProRes on for everyday shots, and remove duplicates and large old videos instead of buying more storage.

References

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3. Apple Inc., "iPhone technical specifications" (available capacity is less; actual formatted capacity is less).
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