

Introduction to digital photography

Digital photography is fast, efficient, and more cost-effective than the old ways of using an analog camera with film. And best of all, digital photography just keeps getting easier and more enjoyable.



Figure 1 A photography student in the field. Photo by [Aravind Kumar](#). CC0 1.0.

So many advantages

- Digital takes the fear out of photography by letting you take as many pictures as you want.
- You can see right away if you got the picture you want, and you can delete pictures you don't want.
- Upload pictures and share them with friends and family anytime, anywhere using a computer or a mobile phone.
- Digital costs less because you don't buy film and you don't pay to print photos you don't want.
- People use digital photography in their work every day—police officers, real estate agents, insurance agents, fire fighters, scientists, and doctors, just to name a few.

Getting started with digital photography

Taking pictures

There are several ways you can get pictures ready for a computer:

- **Use a digital camera.** There are lots of different types of digital cameras. Before you buy, make a list of the “must have” features to find the right one for you.
- **Scan existing prints.** Scan pictures that have already been taken and printed on paper. These photos will have often been taken and printed with film-based camera, usually before digital cameras existed. Whether you have a scanner at home or school, or have access to scanning services through a photo developer, getting existing photos in a digital format lets you quickly and easily copy these cherished memories to a computer for editing, printing, and sharing.

Making pictures beautiful

The great joy of taking pictures is being able to share them with friends, family, teachers, and students. The possibilities are truly endless with digital. You can

- create a slide show for a school project
- put together a photo album that shows the progress of a class over the school year
- print greeting cards, calendars, and posters
- design mouse pads, coffee mugs, and more

Digital is fast, fun, and easy. All you need is your imagination and a few mouse clicks—and you’re there. Want to do more with your digital photos? Use Adobe Photoshop and Adobe Lightroom and watch your creativity flow.

Digital cameras: How we got here

One of the coolest things about digital photography is that you can see your picture right away. With just a few clicks of the mouse you can download, organize, edit, and share all of your digital photos. Sounds simple, right? But did you know it took more than 150 years to get digital cameras where they are today?

Photography is the art of capturing light. And that’s what the very first camera did. Called a *camera obscura*, it had a big piece of glass that reflected a picture on a wall or canvas.

Back in the day

A Frenchman named Louis-Jacques Mandé Daguerre invented photography in 1839. Looking at pictures of people and places was popular home entertainment in the 1850s—a lot like watching TV is today. Most pictures were taken to show things the way people wished to see things.

A new type of photography called *photojournalism* started about the time of the U.S. Civil War. Designed to document the reality of the battlefields, American photojournalism was pioneered by Mathew B. Brady. When newspapers printed Brady’s photos, people saw how powerful a photo could be.

George Eastman designed the first camera for the general public in 1888. Called a Kodak camera, it was easy to use and had enough film for 100 pictures. Color photography was invented in 1907, but it wasn’t until 1935 that it became popular.

The first digital camera was made in 1994. If you wanted to buy one, it would cost \$18,000 for 1 megapixel. Technology has come a long way in the last 10 years. You can buy a digital camera with up to 10 megapixels for less than \$100.

The power of digital

Digital photography is used not only to take fun pictures, but also in important ways by people in a lot of different professions: police, health care, lawyers, educators, insurance agents, real estate agents, scientists, and many others.

It lets us see things we'd never seen before. The Hubble Space Telescope has sent digital images from deep outer space since 1990. In fact, it's probably the biggest digital camera ever made—it's the size of a school bus.

One picture showed the first planet found outside our solar system. The planet is almost three times bigger than our largest planet, Jupiter. But it's not just the big stuff that digital helps us see. It also lets us see the smallest of things such as human cells and microscopic particles.

Take a minute and think about how you could use digital photography. Would it be to take pictures of your puppy or kitten once a week to chart its growth? Or would it be to start an art project? Digital photography lets you experience photos like never before. Hang on because it's going to be a wild ride.

Top 10 digital myths

The early days of digital photography had some problems. Cameras were expensive. Photo quality was not good. There weren't a lot of tools to handle digital photos.

Since then digital cameras have gotten a lot better. So have the photos they make. The tools available to manage photos have made digital easier than ever, too.

There used to be debate and negative views of digital photography. Much of this debate has subsided and most professional and amateur users alike use digital cameras. Historically the Top 10 myths were:

1. **A digital photo is not as good as film.** Today's digital cameras produce great-looking photos, even in large print sizes. Film is good and improving, too. But digital easily keeps pace.
2. **Digital cameras are big and heavy.** There are a lot of small, featherweight digital cameras that have loads of features. They create top-quality photos, too.
3. **Digital cameras are slow.** For a long time, digital cameras were slower than their film cousins. Every year, digital cameras get faster.
4. **Digital photography is expensive.** Currently digital is cheaper than film.
5. **It takes too long to transfer pictures to a computer.** Get a USB or memory card reader to make quick transfers.
6. **It's hard to view and edit digital photos.** Not anymore. For example, Adobe Lightroom and Photoshop are surprisingly easy to learn and use.
7. **It's hard to make prints from digital photos.** Printing digital photos is easy. You can print at home, or on the Internet by using an online photo service.
8. **Prints from digital photos look bad.** It is almost impossible to tell the difference between digital prints and traditional film prints.
9. **It's hard to organize and store digital photos.** Adobe Lightroom, is a visual file browser that helps take the guesswork out of finding the image file you need. Protect your original photo files—also called digital negatives or Camera Raw files—by backing them up.
10. **Digital photography is too much fun.** Sorry, this one's true!

Tips for good image composition and elements of visual design

- **Framing:** When framing the picture, try to fill the frame with relevant and interesting elements.
- **Emphasis:** Include a focal point of the photograph, a subject that is emphasized.
- **Angle of view:** Take pictures from the subject's eye level to capture it realistically, or change the angle to alter the point of view.
- **Balance:** Create a sense of weight for the elements within the frame; some objects will have a large sense of weight and some will have a small sense of weight.
- **Rule of thirds:** When composing your shot, think of your viewfinder as crisscrossed by two horizontal and two vertical lines. The center of interest should fall along those lines or near one of the four intersections, not in the center of the image. (Figure 2).
- **Close-ups:** Take close-up pictures to capture details and highlight specific objects.
- **Tone and sharpness:** Use light and shadow to focus attention on or draw attention away from your subject. Have your subject in focus and blur the extraneous elements to draw viewers to the subject.
- **Arrangement:** Remove objects not essential to the composition, or eliminate them by changing the camera's perspective.
- **High dynamic range (HDR) imaging:** Use exposure bracketing and take several pictures at different exposure settings. These images can be combined later to achieve the artistic HDR effect (Figure 3).



Figure 2 The rule of thirds

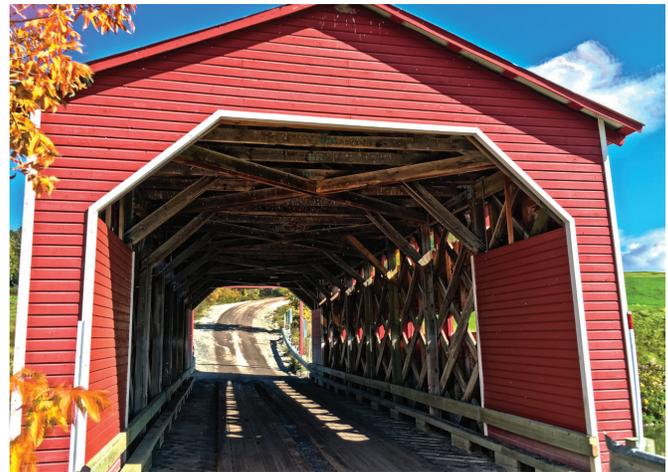


Figure 3 HDR image

Adobe applications requires an Adobe ID and can optionally connect to a variety of online services, like photo storage and video hosting services, that are not available to users under the age of 13. If you plan to use Adobe applications with students under the age of 13, the educator (and not the student) must create the Adobe ID account.

This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported License. For more information about the rights granted under this license, please visit: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

For more information

Get instant access to free courses, workshops, & teaching materials and connect with the creative education community on the Adobe Education Exchange: <https://edex.adobe.com/>.



Adobe

Adobe Systems Incorporated
345 Park Avenue
San Jose, CA 95110-2704
USA
www.adobe.com

Adobe and the Adobe logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries. All other trademarks are the property of their respective owners.

© 2018 Adobe Systems Incorporated. All rights reserved.

This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported License.