What Happens When You Take a Photo

In this lesson, we'll be taking a look at
What Happens When You Take a Photo.

Estimated Completion Time: **9 minutes.**

What Happens When You Take a Photo

Before we start looking at some technical details about how to take better photos, let's look at what happens when your camera takes a photo.

Understanding a few basic concepts will make the methods and ideas we discuss much easier to understand.

When you understand a few basic camera features, you'll be able to take photographs like this one.

What Happens When You Take a Photo

Photography is all about ***light***. Without light, there is no color, there is no image, there is no photo.

There are three main settings on a camera that determine how much light is available for a photo. In this lesson, we look at all three - ***shutter speed***, ***aperture***, and ***ISO rating***.

When you understand a few basic camera features, you'll be able to take photographs like this one.

What Happens When You Take a Photo

A few points before we start.

All cameras have an automatic mode. Some cameras only have automatic modes. In order to take *great* photos, you don't *need* to understand, much less adjust, ***shutter speed***, ***aperture***, or ***ISO*** ratings.

However, if you do get a basic understanding of these concepts, you'll be able to take *even better* photos.

When you understand a few basic camera features, you'll be able to take photographs like this one.

What Happens When You Take a Photo

In this lesson, we only *introduce* these concepts.

In later lessons, we'll cover these same topics in much more detail, with a whole range of examples to illustrate why understanding these concepts will give you so much more flexibility.

When you understand a few basic camera features, you'll be able to take photographs like this one.

What Happens When You Take a Photo

Let's assume the image below is the camera lens. Here, we are looking directly into the lens.

It is not currently taking a photo.

What Happens When You Take a Photo

When you take a photo, the ***shutter*** opens to let in light, along with the image you are taking a photo of.

The shutter stays open for a certain period, then closes. The length of time it stays open is called the ***shutter speed*.**

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The shutter can stay open for as little as, say, 1/4000 of a second. It can also open for, say, 30 seconds.

It all depends on how much light is available, and the effect you are creating. The longer the shutter is open for, the more light enters the camera.

This shutter is opening and closing at around 1/3 of a second.

This shutter is opening and closing at around 1 second.

What Happens When You Take a Photo

You now know that the length of time the shutter is open is called the ***shutter speed.*** On most cameras, you can select a custom shutter speed.

In another lesson, we look closely at shutter speed - how to set it, and use it.

Very much related to shutter speed is the ***aperture.*** This determines how *wide* the shutter opens.

This is a small, or narrow aperture.

This is a wide, or large aperture.

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The wider the shutter opens, the larger the ***aperture*** is, and the more light is let into the camera.

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Aperture is measured in ***f-stops***, often just called ***stops***. Aperture settings can range from F/1, right through to F/40 or more. The **lower** the f-setting, the **wider** the shutter opens.

F/2

F/8

F/20

F/32

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We look at ***aperture*** in more detail in another lesson. We look at how to set it, and how to use it. You'll be surprised at some of the effects you can create by tweaking this setting.

We are going to look at one more setting in this lesson. This is called ***ISO*** rating.

Many cameras allow you to manually change the ISO rating.

What Happens When You Take a Photo

The ***ISO*** rating on your camera determines how *sensitive* the camera is to light. The higher the ISO rating, the more sensitive to light the camera is.

All cameras have an automatic ISO settings, and many allow you to select custom ISO ratings.

ISO ratings on most cameras will range at the low end of 64, up to 1600, 3200, or even 6400. Believe it or not, some higher end DSLRs offer an ISO rating of over 100,000.

Cameras that allow you to manually set ISO allow you to take photos when not much light is available.

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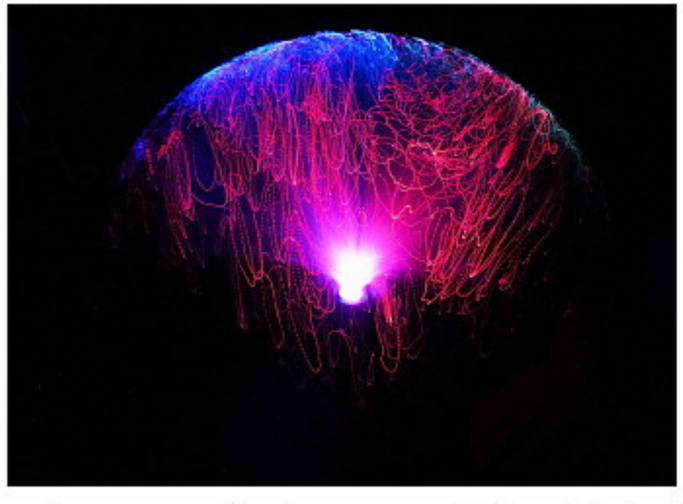
So, the amount of light available for a photo depends essentially on three things:

- ***Shutter speed*** - how long the shutter opens for.
- ***Aperture*** - how wide the shutter opens.
- ***ISO*** - how sensitive the camera is to the light.

Different combinations of shutter speed, aperture, and ISO will not only affect the light in the image, but also the way the camera, and the lens, receive and process the image.



When you understand a few basic camera features, you'll be able to take photographs like this one.

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You've now completed this lesson.

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