Shutter Speed

In this lesson, we'll be taking a look at
Shutter Speed.

Estimated Completion Time: **11 minutes.**

Shutter Speed

A few points before we start looking at ***shutter speed*.**

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*.**

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

When you understand shutter speed, you'll be able to take photographs like this one.

Shutter Speed

When you take a photo, the camera ***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***.

Here we are looking down a camera lens - and the shutter is opening and closing, taking photos.

Shutter Speed

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

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.

Shutter Speed

A fast ***shutter speed*** opens the shutter only for a fraction of a second, allowing you to freeze the action. A slow shutter speed can open the shutter for 30 seconds or more, and allow you to capture in low light, or for dramatic effect.

Not all cameras have a lot of shutter speed control. Generally, only the higher end compact cameras, big zoom cameras, or DSLR cameras have the ability to change shutter speed.

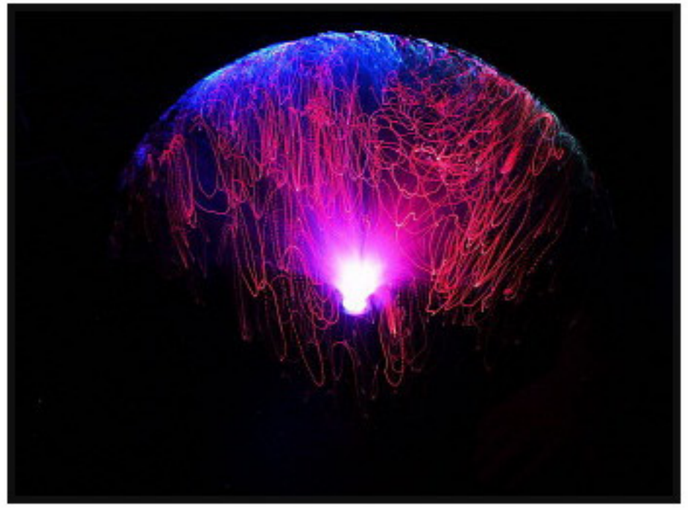
As you'll see shortly, this can dramatically affects how the photograph turns out.

A water drop, frozen at 1/4000 of a second.

Shutter Speed

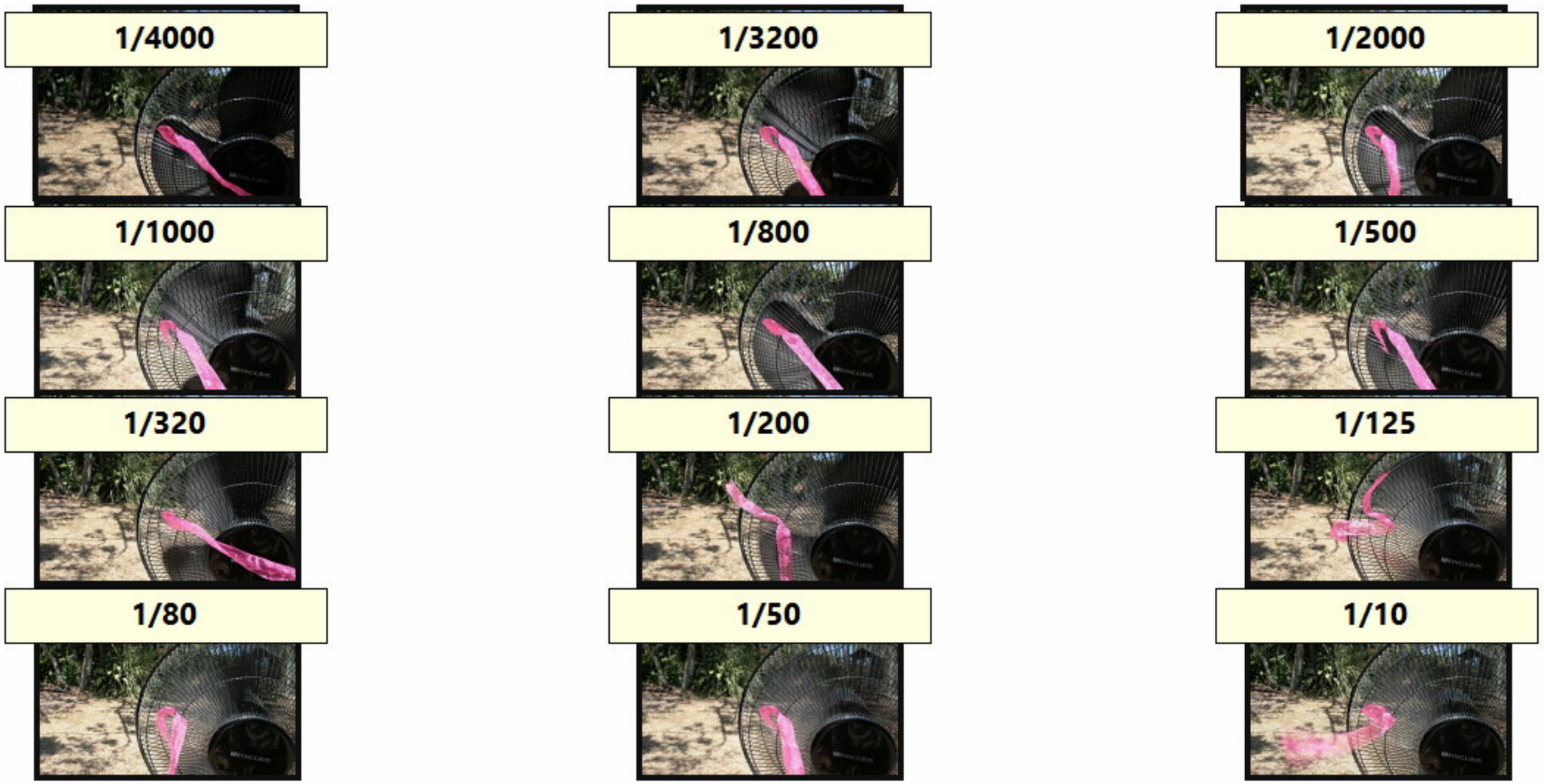
Shutter speed is measured in seconds (1 second, 2 seconds, etc), or hundreds/thousands of a second (1/1000 of a second, or 1/250 of a second, etc), or sometimes in fractions of a second (1/3 of a second, 1/2 of a second, etc.)

The shutter speed relates directly to how long the shutter is held open for. If you compare a shutter speed of 1/4000 of a second, even to an average shutter speed of 1/100 of a second - then at 1/100 of a second, the shutter is open for 40 times as long.



A shutter speed of 1 second gives a great effect to this picture.

Shutter Speed

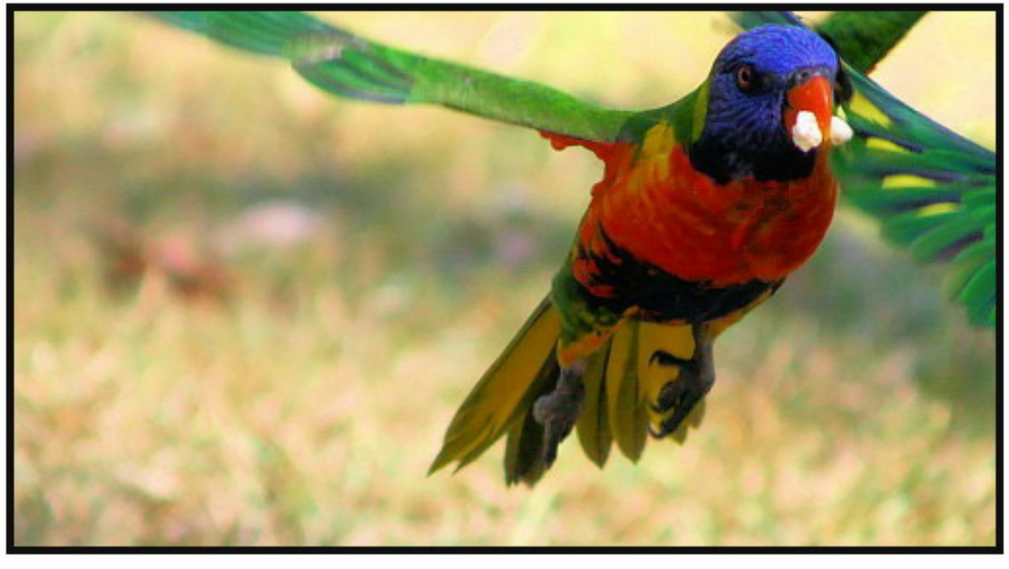


A series of examples of different shutter speeds. Subject was a fan on full speed.

Shutter Speed

When you are taking a photo, if your camera supports it, you'll be able to select a shutter speed that you want. However, the range of shutter speeds you practically be able to use is dependent on the available light.

You can't use a 1/4000 of a second shutter speed in near dark conditions - it simply will not let in enough light. And you won't be able to use a shutter speed of 6 seconds at the beach during the day - it will simply let in too much light.



A shutter speed of 1/1600 of a second here almost freezes the bird.

Shutter Speed

Fast Shutter Speeds. Fast shutter speeds are used to capture action. They may also be used in very bright lighting conditions to prevent too much light entering the camera.

What is a fast shutter speed? It does depend on what is going on. Many cameras can use shutter speeds as quick as 1/8000 of a second. In general use, anything over 1/200 of a second could be considered fast.

Shutter speed here was set to 1/1250 of a second, in an attempt to freeze the action.

Shutter Speed

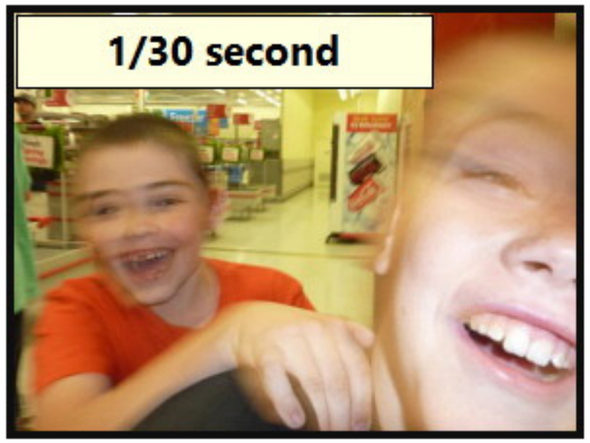
Shutter Speed

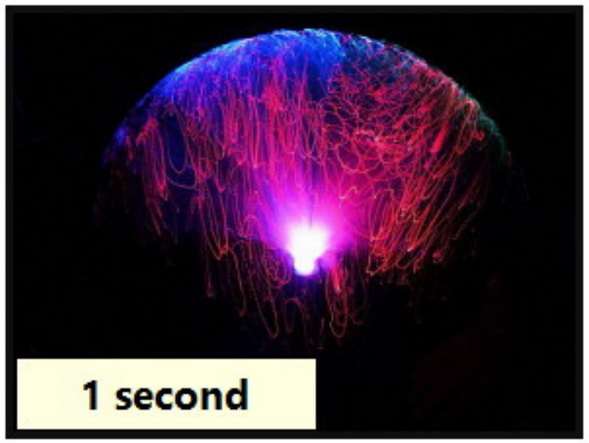
Slow Shutter Speeds. Slow shutter speeds are used to capture movement. They may also be used in very low lighting conditions to allow more light to enter the camera.

What is a slow shutter speed? It does depend on what is going on. Many cameras can use shutter speeds as slow as 30 seconds. In general use, anything around 1/60 of a second or less could be considered slow.

For this shot of a person running along the road with a torch, the shutter speed was set to 15 seconds. This means that all movement was captured that occurs over this 15 seconds in the one photo.

Shutter Speed





Shutter Speed

This photograph was taken at 1/10 of a second - allowing the water to 'move'.

Shutter Speed

The faster the shutter speed - the more the action is 'frozen'. This is great for sports photographs, action shots.

Fast shutter speeds require a lot of light. If you set a shutter speed to something like 1/1000 of a second, and light is poor - you are simply not going to get enough light in to take the photograph.

This photograph was taken at 1/1000 of a second - but the poor light available means the photo has come out too dark.

Shutter Speed

The same thing will happen if the shutter speed is too slow - the camera receives too much light, and the photo is overexposed.

If your camera has aperture control, setting the aperture to a high setting (f20 odd) will also allow to get longer captures by reducing the amount of light entering the camera.

This photograph was taken at 1/6 of a second - but the bright light available means the photo has been overexposed.

Shutter Speed

If left on automatic, your camera will generally select a shutter speed of between 1/60, and around 1/500 or so, depending on available light.

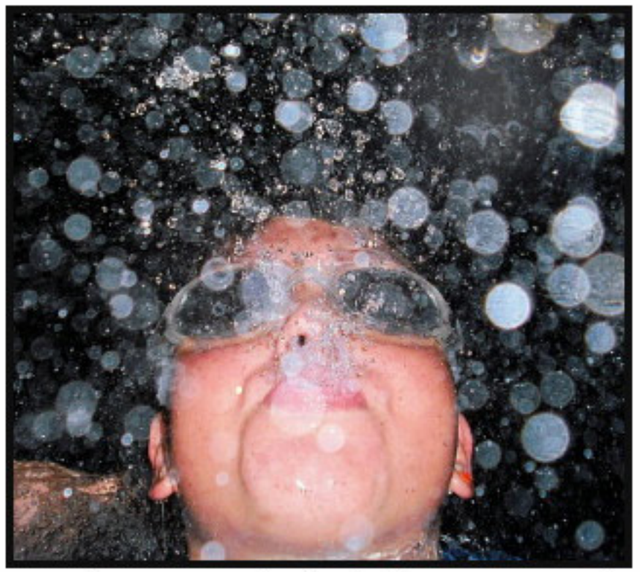
There is no fixed shutter speed that is best. It depends on what you are photographing, and how might light there is. It depends on whether you are using a tripod, as slower shutter speeds almost always requires a tripod.

Both these shots were taken at 1/30 of a second. Movement of the camera, and movement of the subject have to be taken into consideration.

Shutter Speed

When a camera has a mode called **Shutter Priority,** all you do is select the shutter speed you are after, and the camera will select all other appropriate settings to ensure the photograph is exposed correctly. This normally involves adjusting aperture, and ISO.

Note that, as with *aperture priority*, the camera will do it's best to make sure the photograph is exposed correctly, but ultimately, this depends on whether enough light is available to do so.



*In **Shutter Priority** mode, you select your desired shutter speed, and the camera does the rest.*

Shutter Speed

Later in this course, there is a lesson called **Action Shots.** This lesson discusses shutter speed, and in particular fast shutter speeds, in more detail.

We also have a lesson called **Slow Shutter Speeds** which deals in more detail with taking photographs with slow shutter speeds.

Shutter Speed

You've now completed this lesson.

In this lesson, we took a look at **Shutter Speed.**