

---

# CAMERA BASICS SERIES: ZOOM LENSES EXPLAINED

---

Quick Guide  
Written by Angela Fulks





# Before you dive into this guide, here's a few other free resources to help you learn photography:



## What is Your #1 Photography Killer?

Take this 30 second quiz to find out the #1 thing holding your photography back.

[Take Quiz →](#)



## 3 Free Photography Cheat Sheets

Grab 3 free photography cheat sheets that will help you understand the basics.

[Download Cheat Sheets →](#)



## Free Photography eBooks

Free access to our library of 250+ downloadable (pdf) tutorials on everything you can imagine.

[Download eBooks →](#)



## Want quick photography tips?


Check out our friends at [DailyPhotoTips.com](https://DailyPhotoTips.com) they'll send you 1 solid photography tip to your inbox, 5 days a week. So you can start your day right, with actionable tips to help you on your creative journey. [Subscribe now →](#) (free for a limited time)

Buying lenses for your camera can be an exciting and overwhelming task. There are so many to choose from, so how do you know which ones to invest in and which ones will work the best for you?

There are two general types of lenses for you to choose from: zoom lenses and prime lenses. We will focus on zoom lenses in this guide, and we will touch on the differences between a zoom lens and a prime lens. It is important to know the difference between the two and what they both have to offer.


Let's get started and learn the basics of zoom lenses!

- What is a zoom lens?
- What is focal length, and how is it measured?
- What are the differences between a zoom lens and a prime lens?
- What are the advantages of a zoom lens? What are the disadvantages of a zoom lens?
- Deciding which zoom lens is right for you.

 **Recommended Reading:** Want a step-by-step guide on photography skills with your DSLR? Grab a copy of our best-selling guide, the [DSLR Crash Course](#).

## WHAT IS A ZOOM LENS?

Each zoom lens contains a very complicated set of mechanisms and individual parts that work together to give the photographer the option to change focal lengths. A zoom lens gives us the option to zoom in and zoom out of the scene we want to photograph.

 **Key Lesson:** Zoom lenses allow us to zoom in and zoom out on a subject or scene we are photographing.





Photograph by Angela Fulks

*This photo was taken with a 24-120mm lens. This building sits empty in my town, and I like seeing the little elements left behind from its former life as a bar and grill. Using the shorter focal length of 24mm let me capture what I love most about this building all in one frame.*

## WHAT IS FOCAL LENGTH AND HOW IS IT MEASURED?

Focal length determines our camera's angle of view or how much of a scene our camera will capture. We can change the focal length by turning the zoom ring on our lens. Turning one way will make an object in our scene appear larger and turning the opposite way will make that object appear smaller.





Photograph by Angela Fulks

*This photo was taken at the same distance as the previous photo, but at 120mm instead. Using the longer focal length of 120mm narrowed the angle of view so much that the door and flowerpot became the main focus in my shot.*






Photograph by Angela Fulks

*The focal length of this 70-300mm lens is marked at the base of the lens.*

Focal length is measured in millimeters and is shown at the base of a lens or on the front end of a camera. For example, if you see **18–55mm 1:3.5-5.6 G**, you will know that the focal length range of this lens is 18-55mm and that this is a zoom lens.

If you were to turn the zoom ring while using a 18-55mm lens, the camera's angle of view would change from wider to narrower. The 18 represents a wider angle of view and the 55 represents a shallower angle of view, letting us zoom in on a specific subject in our scene.

 **Key Lesson:** Focal length is measured in millimeters and can be found on the lens body.






Photograph by Angela Fulks

*Although I do most of my photographing with my 24-120mm lens, it is fun to break out the 85mm prime lens to get closer to my subject. Using an 85mm lens for this forced me to move closer to this pot and photograph the weeds growing from it.*

## DIFFERENCES BETWEEN A ZOOM LENS AND A PRIME LENS

There are a few differences between zoom lenses and prime lenses that are worth keeping in mind. The main difference is that zoom lenses can zoom in to your subject but prime lenses cannot. Prime lenses are made with a fixed focal length. This means it's not possible to zoom in with a prime lens. The only way for your subject to appear larger in your photo is to physically walk closer to your subject. We learned that zoom lenses have a very intricate set of mechanisms inside that allows the lens to zoom in. Prime lenses are constructed with a much simpler design, giving them some advantages over a zoom lens. They can be lighter to carry, produce photos well in poorly lit conditions, and may not be as expensive as some zoom lenses.

 **Key Lesson:** Zoom lenses allow us to zoom in or out on our subject without moving, but prime lenses do not.



## WHAT ARE SOME ADVANTAGES AND DISADVANTAGES OF A ZOOM LENS?

Zoom lenses have a lot to offer a photographer, but like many other things in photography, these advantages may come at a compromise.

Zoom lenses are very versatile. Being able to zoom in and out quickly is helpful for photographers who shoot weddings and events, landscapes, street scenes, and wildlife. Keeping your distance in some situations is important, and using a zoom lens is a great way to capture moments without interrupting the action. Zoom lenses are useful because it's not necessary to change lenses for a different angle of view. A need for fewer lenses means we can travel lighter and not be weighed down by extra gear.

While there are many advantages to zoom lenses, we must discuss some of the disadvantages. Zoom lenses can be heavy because of their construction. There is a greater chance of something malfunctioning in the lens simply because they are made with so many moving parts. Zoom lenses do tend to be slower and may not perform well in poorly lit conditions.

There is a wide range of zoom lenses on the market, each with different capabilities. The costs for these lenses will vary just as widely as the selection.



**Key Lesson:** Zoom lenses have a lot of advantages, but also have disadvantages.





Photograph by Angela Fulks

*Photo taken with 70-300mm lens at 300mm. This photo highlights one of the drawbacks of some zoom lenses: distortion in the final photo. This photo looks like it's curving away from the viewer (especially noticeable at the edges of the photo). There is an easy way to fix this with editing software, so to me, it's not a big enough deal to retire this lens.*





## DECIDING WHICH ZOOM LENS IS RIGHT FOR YOU

There are many things to consider when choosing which zoom lens is right for you. First and foremost, consider how you will be using it. Some photographers may need to keep physical distance from their subject, like a wildlife photographer, so a zoom lens that offers a longer reach will be ideal. Other photographers may need the versatility to change focal lengths quickly and effectively, such as wedding photographers. Others may need to decide strictly on cost and find a zoom lens within their budget. Researching a variety of zoom lenses is an important step when deciding which lens will meet your needs and shouldn't be overlooked.

Some digital cameras come with a "kit lens," typically an 18-55mm zoom lens. This is a great zoom lens for beginners! It offers a reasonable focal length range and makes it possible to take realistic photos of landscapes and street scenes. It will introduce new photographers to the world of zoom lenses and give them a solid working knowledge for when they

are ready to purchase a different lens. It's tempting to spend more money on lenses right away when buying a new camera; in fact, I know I've done it! I learned how much I loved my "kit lens" long after I purchased my first camera because I was so anxious to grow my collection of lenses. I learned a hard lesson, hundreds and hundreds of dollars later: I could've happily used my kit lens for a few years while learning about photography had I simply given it a fair shot in the beginning.

 **Key Lesson:** There are a lot of things to consider when deciding which lens will work for you. Research is key!

 **Recommended Reading:** Want a step-by-step guide on photography skills with your DSLR? Grab a copy of our best-selling guide, the [DSLR Crash Course](#).





Photograph by Garrett Morrow

## CONCLUSION

Selecting the right gear is a fun and exciting part of photography. Variety is the spice of life, and variety in your gear can bring extra spice to your photos! Zoom lenses have a lot to offer us photographers, and discovering their capabilities is a sure way to spice up our images. In photography and with lenses, experimentation and practice are the best ways to learn what lenses work best for your needs. Lenses aren't cheap, and buying a lens to experiment with isn't always affordable. Be sure to check out if there are any dealers or camera stores in your area that rent out lenses to experiment with.

## Self-Check Quiz:

- 1) True or False: Zoom lenses will always allow us to make our subject larger or smaller in photographs.
- 2) What determines our camera's angle of view?
- 3) What is focal length measured in?
- 4) Where can the focal length of a lens be found?
- 5) Name the most important difference between a zoom lens and a prime lens.
- 6) True or False: There is not a wide variety of zoom lenses on the market.
- 7) What style of shooting can benefit from using a zoom lens?
- 8) True or False: A "kit lens" is not a good lens to practice with when first starting out in photography.





## Hey there!

Let's get real for a minute... Learning photography can be super challenging! But we're here to help you every step of the way! Here are 3 of our most useful (*and FREE!*) photography resources:



### 3 Free Photography Cheat Sheets

Grab 3 free photography cheat sheets that will help you understand the basics.

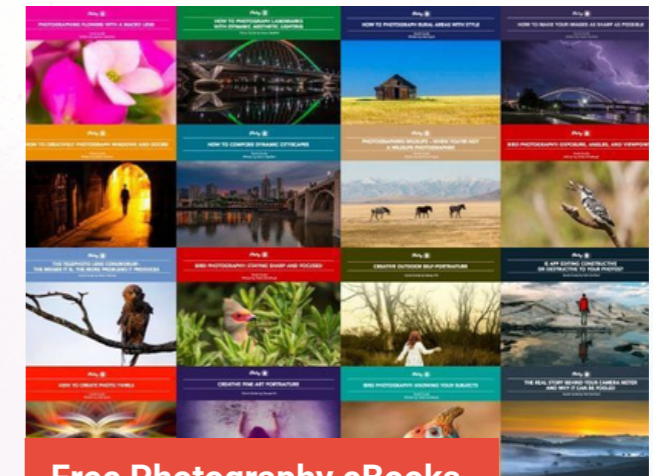
[Download Cheat Sheets →](#)



### What is Your #1 Photography Killer?

Take this 30 second quiz to find out the #1 thing holding your photography back.

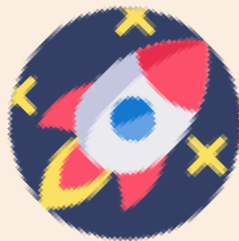
[Take Quiz →](#)



### Free Photography eBooks

Free access to our library of 250+ downloadable (pdf) tutorials on everything you can imagine.

[Download eBooks →](#)



### Want quick photography tips?

Check out our friends at [DailyPhotoTips.com](https://DailyPhotoTips.com) they'll send you 1. solid photography tip to your inbox, 5 days a week. So you can start your day right, with actionable tips to help you on your creative journey. [Subscribe now →](#) (free for a limited time)

## ABOUT THE AUTHOR



Angela Fulks is a photographer and paranormal investigator who lives in St. Louis, Missouri, with her family of seven. She photographs weddings, portraits, and all the spooky places she can find.

You can see more of her work on Instagram:

<https://www.instagram.com/angela.m.fulks/>

Congratulations! You've completed this Photzy guide!

If you liked this photography tutorial, check out our step-by-step guide on discovering photography skills using your DSLR and start creating amazing images: [DSLR Crash Course](#).



---

**IF YOU'D LIKE TO CONTINUE  
LEARNING AND IMPROVING  
YOUR PHOTOGRAPHY PLEASE  
VISIT PHOTZY.COM**

---