


I'm not robot  reCAPTCHA

I am not robot!

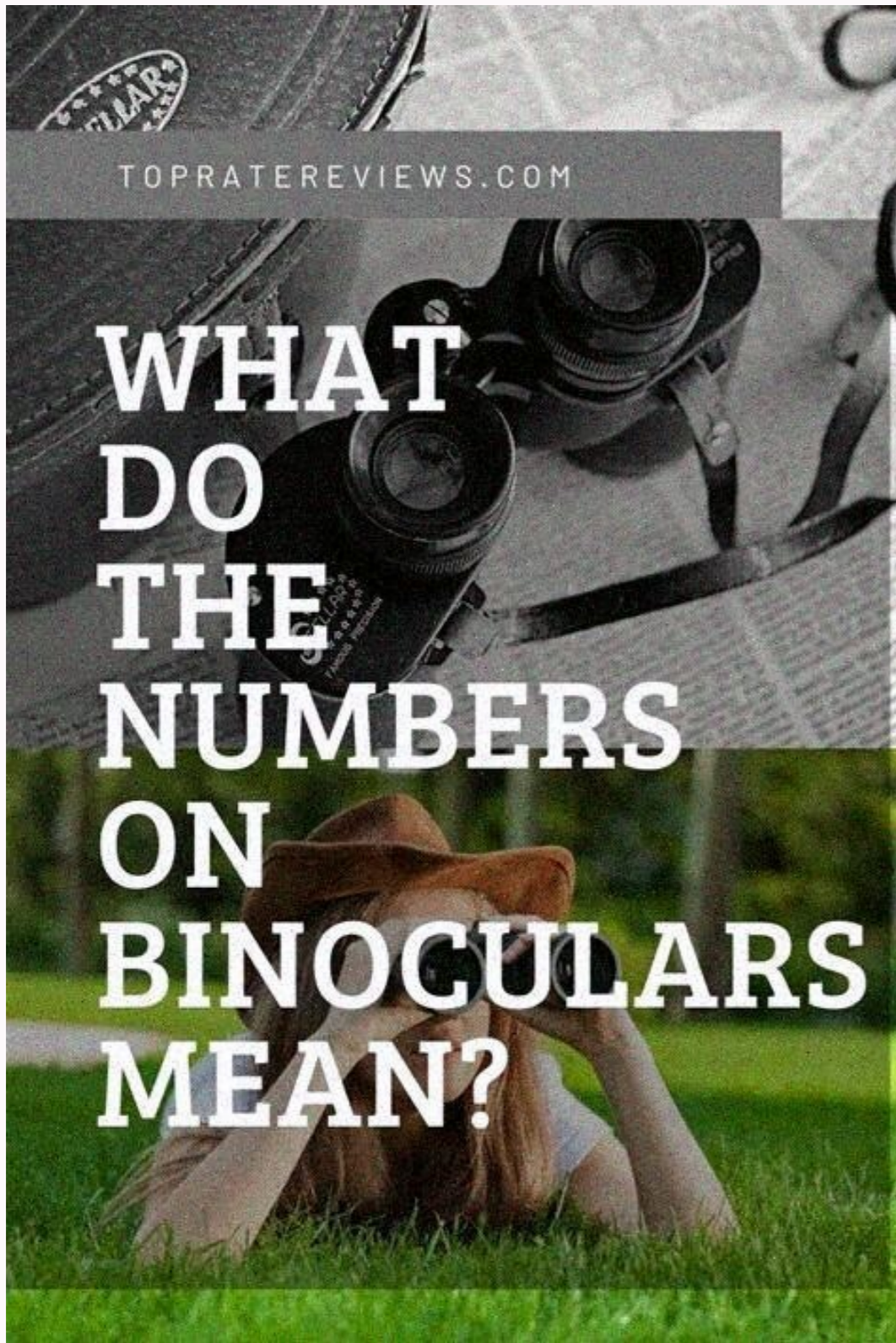
What do the magnification numbers mean on binoculars

If you're a hiker, bird watcher, or stargazer, you probably already have a pair of binoculars all packed up and ready for the road. However, while these optical instruments aren't that hard to use when it comes to the magnification power and lens diameter, things might get a bit confusing.

What do all those numbers like 8x32 mean? How do you know which model is right for you? Don't worry—we've got your back! In this guide, we'll talk about the ins and outs of binocular strength and size. Next, we'll cover the best specifications for different hobbies (like bird watching or stargazing) and learn how to pick the best field glasses for your outdoor activities. Let's get started! Power & Size: What Do These Specs Stand For?

For binoculars, the two most important parameters to check are the magnification strength and size or, rather, the objective lens diameter. Thus, if you see something like 10x32, that means that instrument can make the target appear ten times closer. In simpler words, a pair of 10x binoculars will make a bird, rabbit, or elk that's 1,000 miles away look like it's just 100 miles away. With 8x, you'll get a wide field of view; 10x offers a more detailed image. As for the lens diameter, it describes the size of the device, with the most popular options being compact, average, and large. Compact binoculars have a <30mm lens size. They're the most lightweight option on the market. Mid-size models, in turn, are rated at 30–40mm. Finally, the biggest binoculars come equipped with 40mm+ lenses. Image Credit: stevepb, Pixabay How Big Is Big Enough? A Quick Look To put things into perspective, an 8x42 pair of field glasses will be around 30% heavier and 20% bigger than an 8x32 pair. The difference between an 8x32 and an 8x25 device will be lower, but you'll still feel it. So, the question is—what are the benefits of a larger lens? Mostly, it's the lens's capability to capture more light and make the image brighter. A better color rendition and a more detailed image will be a part of the deal as well.

Large lenses do a far better job of capturing details in the shadows, too. That said, if you like to travel light, you might want to go with a smaller pair of binoculars. Full-size binoculars are way too heavy to hold with one hand for a long time. Plus, you'll have to pay less for a compact model. What's the Right Binocular Size for Me? This greatly depends on what you're planning on doing with the device. If it's hiking, 8x25 will be a great place to start. However, for boating, anything lower than 8x42 won't cut it: the binoculars simply won't be able to handle the task. So, yes, it all comes down to your specific needs. Our experts put together the following chart to help you pick the right binoculars for each purpose: Binocular Magnification Chart Activity Magnification Power Lens Diameter Bird watching 8x, 10x 32, 42, 50 Hiking/backpacking 8x, 10x 25, 28 Hunting 7x, 8x, 10x 40, 42, 50 Whale watching 8x, 10x 32, 42 Wildlife viewing 8x, 10x 32, 42 Paddling 7x, 8x, 10x 32, 42, 50 Sporting Events 6x, 7x, 8x, 10x, 12x 25, 28, 32, 42 Concerts 3x, 4x, 8x 20, 25, 28 Stargazing 10x 42, 50 The chart should give you a basic understanding of what type of binoculars to buy for your hobbies. As you can see, in most cases, there are multiple options to choose from. Now, if you want to learn more, read our detailed breakdowns of popular binocular uses and the ideal magnification power and size/lens diameter combos: 1. Bird Watching Image Credit: HTWE, Shutterstock For birding, 8x32 and 8x42 binoculars are the best offers on the market. But wait: why not go with a 10x device instead? Won't it do a better job of magnifying the target? Technically, yes, it will make it look bigger. However, for bird watching, the field of view is more important, and it will be wider with an 8x instrument. Now, you could go with 8x50, but those binoculars will be significantly heavier. Instead, you'll be better off investing in weather and impact resistance, along with the anti-fog feature. Otherwise, the binoculars will be damaged by water and dirt, break when bumped, and fog up when you grab them from the backpack. 2. Hiking & Backpacking Image Credit: HTWE, Shutterstock When you're one on one with the Great Outdoors, hiking, camping, and backpacking, every single pound counts. That's why lightweight binoculars are the best choice here. Compact field glasses will be perfect for this activity. We're talking about 8x or 10x and a lens diameter of 25 or 28. All these options—8x25/28 or 10x25/28—will be more than enough for a hiking trip. Again, look for an instrument with a weather-resistant finish. For example, rubber coating is durable, water-resistant, and not at all heavy. 3. Hunting Image Credit: PRESSLAB, Shutterstock In most scenarios, a magnification of 7–10x is enough to cover a hunter's needs. Now, you might be tempted to go for something bigger, but don't forget about the importance of image clarity/steadiness. For finding tracks, even 7x will be plenty. As for the objective, 40–42 is the "sweet spot". True, a pair of binoculars with such a large lens won't be cheap. But, it will be a reasonable investment in the long run. Oh, and if you mostly hunt early in the morning or late in the evening when there isn't much sunlight available, a 10x50 pair of field glasses will be more appropriate. Sometimes, 8x32 or even 8x30 could also work, but for the most part, 8x40 is the safe bet. 4. Wildlife & Whale Watching Image Credit: Maridav, Shutterstock Do you prefer safaris, wildlife viewing, and whale watching over hiking, birding, and hunting? Then an 8x32 binocular is probably what you're opting for. Now, 10x32 is also a great choice, but if you want more precision, we'd recommend an 8x42 or 10x42 pair of binoculars. Planning on watching the wildlife from afar? Then 8x32/42 magnification power won't always cut it; only 10x will be able to handle the task. The fans of whale watching should only use 100% waterproof instruments. Otherwise, their binoculars might be ruined by all the water. 5. Paddling Image Credit: CL-Medien, Shutterstock People that like to set sails on a kayak or canoe and watch whales and other marine creatures often use 8x binoculars. You can, of course, try your luck with a 10x model, yet it won't be easy to get a steady viewing experience with such magnification strength. And what about 7x—will it be a reasonable pick here or not? The short answer is yes, it will be. That device will be lighter and more compact, not to mention cheaper. Still, for the most part, boating enthusiasts buy 8x32 or 8x42 binoculars. Next, 8x50 is also a possibility; it will be a bit too much for most paddling fans, though.



Don't worry—we've got your back! In this guide, we'll talk about the ins and outs of binocular strength and size. Next, we'll cover the best specifications for different hobbies (like bird watching or stargazing) and learn how to pick the best field glasses for your outdoor activities. Let's get started! Power & Size: What Do These Specs Stand For? For binoculars, the two most important parameters to check are the magnification strength and size or, rather, the objective lens diameter. Thus, if you see something like 10x32, that means that instrument can make the target appear ten times closer.

In simpler words, a pair of 10x binoculars will make a bird, rabbit, or elk that's 1,000 miles away look like it's just 100 miles away. With 8x, you'll get a wide field of view; 10x offers a more detailed image. As for the lens diameter, it describes the size of the device, with the most popular options being compact, average, and large. Compact binoculars have a <30mm lens size. They're the most lightweight option on the market. Mid-size models, in turn, are rated at 30–40mm. Finally, the biggest binoculars come equipped with 40mm+ lenses. Image Credit: stevepb, Pixabay How Big Is Big Enough? A Quick Look To put things into perspective, an 8x42 pair of field glasses will be around 30% heavier and 20% bigger than an 8x32 pair. The difference between an 8x32 and an 8x25 device will be lower, but you'll still feel it. So, the question is—what are the benefits of a larger lens? Mostly, it's the lens's capability to capture more light and make the image brighter. A better color rendition and a more detailed image will be a part of the deal as well.

Large lenses do a far better job of capturing details in the shadows, too. That said, if you like to travel light, you might want to go with a smaller pair of binoculars. Full-size binoculars are way too heavy to hold with one hand for a long time. Plus, you'll have to pay less for a compact model. What's the Right Binocular Size for Me? This greatly depends on what you're planning on doing with the device. If it's hiking, 8x25 will be a great place to start. However, for boating, anything lower than 8x42 won't cut it: the binoculars simply won't be able to handle the task. So, yes, it all comes down to your specific needs. Our experts put together the following chart to help you pick the right binoculars for each purpose: Binocular Magnification Chart Activity Magnification Power Lens Diameter Bird watching 8x, 10x 32, 42, 50 Hiking/backpacking 8x, 10x 25, 28 Hunting 7x, 8x, 10x 40, 42, 50 Whale watching 8x, 10x 32, 42 Wildlife viewing 8x, 10x 32, 42 Paddling 7x, 8x, 10x 32, 42, 50 Sporting Events 6x, 7x, 8x, 10x, 12x 25, 28, 32, 42 Concerts 3x, 4x, 8x 20, 25, 28 Stargazing 10x 42, 50 The chart should give you a basic understanding of what type of binoculars to buy for your hobbies. As you can see, in most cases, there are multiple options to choose from. Now, if you want to learn more, read our detailed breakdowns of popular binocular uses and the ideal magnification power and size/lens diameter combos: 1. Bird Watching Image Credit: HTWE, Shutterstock For birding, 8x32 and 8x42 binoculars are the best offers on the market.

But wait: why not go with a 10x device instead? Won't it do a better job of magnifying the target? Technically, yes, it will make it look bigger. However, for bird watching, the field of view is more important, and it will be wider with an 8x instrument. Now, you could go with 8x50, but those binoculars will be significantly heavier. Instead, you'll be better off investing in weather and impact resistance, along with the anti-fog feature. Otherwise, the binoculars will be damaged by water and dirt, break when bumped, and fog up when you grab them from the backpack. 2. Hiking & Backpacking Image Credit: HTWE, Shutterstock When you're one on one with the Great Outdoors, hiking, camping, and backpacking, every single pound counts. That's why lightweight binoculars are the best choice here. Compact field glasses will be perfect for this activity. We're talking about 8x or 10x and a lens diameter of 25 or 28. All these options—8x25/28 or 10x25/28—will be more than enough for a hiking trip. Again, look for an instrument with a weather-resistant finish. For example, rubber coating is durable, water-resistant, and not at all heavy. 3. Hunting Image Credit: PRESSLAB, Shutterstock In most scenarios, a magnification of 7–10x is enough to cover a hunter's needs. Now, you might be tempted to go for something bigger, but don't forget about the importance of image clarity/steadiness. For finding tracks, even 7x will be plenty. As for the objective, 40–42 is the "sweet spot". True, a pair of binoculars with such a large lens won't be cheap.

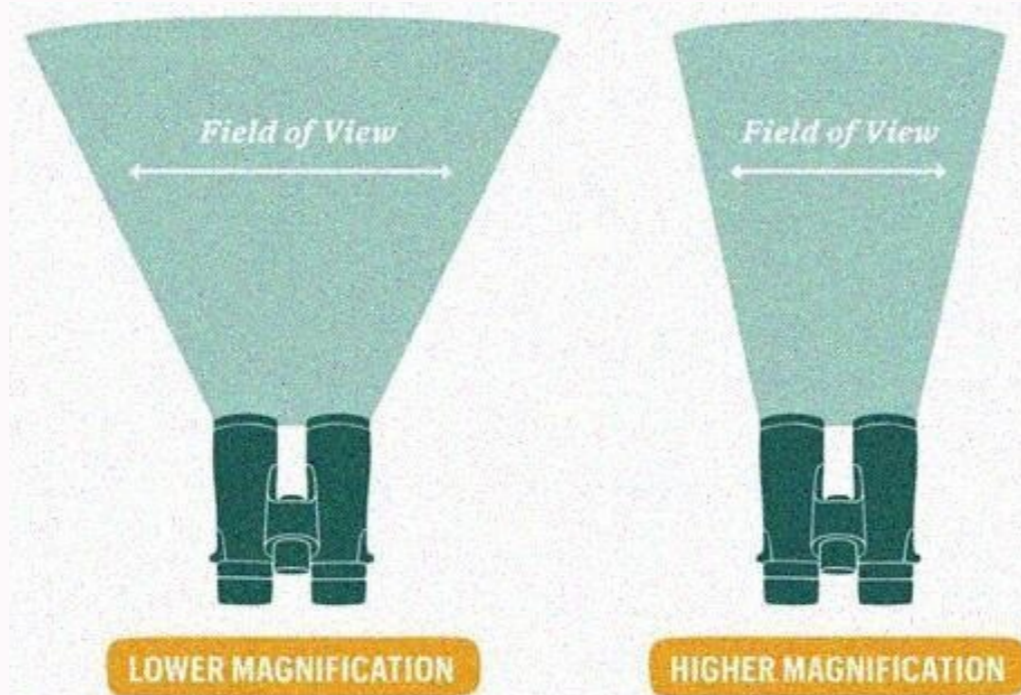


Don't worry—we've got your back! In this guide, we'll talk about the ins and outs of binocular strength and size. Next, we'll cover the best specifications for different hobbies (like bird watching or stargazing) and learn how to pick the best field glasses for your outdoor activities. Let's get started! Power & Size: What Do These Specs Stand For? For binoculars, the two most important parameters to check are the magnification strength and size or, rather, the objective lens diameter. Thus, if you see something like 10x32, that means that instrument can make the target appear ten times closer. In simpler words, a pair of 10x binoculars will make a bird, rabbit, or elk that's 1,000 miles away look like it's just 100 miles away. With 8x, you'll get a wide field of view; 10x offers a more detailed image. As for the lens diameter, it describes the size of the device, with the most popular options being compact, average, and large. Compact binoculars have a <30mm lens size. They're the most lightweight option on the market. Mid-size models, in turn, are rated at 30–40mm. Finally, the biggest binoculars come equipped with 40mm+ lenses. Image Credit: stevepb, Pixabay How Big Is Big Enough? A Quick Look To put things into perspective, an 8x42 pair of field glasses will be around 30% heavier and 20% bigger than an 8x32 pair. The difference between an 8x32 and an 8x25 device will be lower, but you'll still feel it. So, the question is—what are the benefits of a larger lens? Mostly, it's the lens's capability to capture more light and make the image brighter. A better color rendition and a more detailed image will be a part of the deal as well.

Large lenses do a far better job of capturing details in the shadows, too. That said, if you like to travel light, you might want to go with a smaller pair of binoculars. Full-size binoculars are way too heavy to hold with one hand for a long time. Plus, you'll have to pay less for a compact model. What's the Right Binocular Size for Me? This greatly depends on what you're planning on doing with the device. If it's hiking, 8x25 will be a great place to start. However, for boating, anything lower than 8x42 won't cut it: the binoculars simply won't be able to handle the task. So, yes, it all comes down to your specific needs. Our experts put together the following chart to help you pick the right binoculars for each purpose: Binocular Magnification Chart Activity Magnification Power Lens Diameter Bird watching 8x, 10x 32, 42, 50 Hiking/backpacking 8x, 10x 25, 28 Hunting 7x, 8x, 10x 40, 42, 50 Whale watching 8x, 10x 32, 42 Wildlife viewing 8x, 10x 32, 42 Paddling 7x, 8x, 10x 32, 42, 50 Sporting Events 6x, 7x, 8x, 10x, 12x 25, 28, 32, 42 Concerts 3x, 4x, 8x 20, 25, 28 Stargazing 10x 42, 50 The chart should give you a basic understanding of what type of binoculars to buy for your hobbies. As you can see, in most cases, there are multiple options to choose from. Now, if you want to learn more, read our detailed breakdowns of popular binocular uses and the ideal magnification power and size/lens diameter combos: 1. Bird Watching Image Credit: HTWE, Shutterstock For birding, 8x32 and 8x42 binoculars are the best offers on the market.



As for the lens diameter, it describes the size of the device, with the most popular options being compact, average, and large. Compact binoculars have a <30mm lens size. They're the most lightweight option on the market. Mid-size models, in turn, are rated at 30–40mm. Finally, the biggest binoculars come equipped with 40mm+ lenses.



Next, we'll cover the best specifications for different hobbies (like bird watching or stargazing) and learn how to pick the best field glasses for your outdoor activities. Let's get started! Power & Size: What Do These Specs Stand For? For binoculars, the two most important parameters to check are the magnification strength and size or, rather, the objective lens diameter. Thus, if you see something like 10x32, that means that instrument can make the target appear ten times closer. In simpler words, a pair of 10x binoculars will make a bird, rabbit, or elk that's 1,000 miles away look like it's just 100 miles away. With 8x, you'll get a wide field of view; 10x offers a more detailed image. As for the lens diameter, it describes the size of the device, with the most popular options being compact, average, and large. Compact binoculars have a <30mm lens size. They're the most lightweight option on the market. Mid-size models, in turn, are rated at 30–40mm. Finally, the biggest binoculars come equipped with 40mm+ lenses. Image Credit: stevepb, Pixabay How Big Is Big Enough? A Quick Look To put things into perspective, an 8x42 pair of field glasses will be around 30% heavier and 20% bigger than an 8x32 pair. The difference between an 8x32 and an 8x25 device will be lower, but you'll still feel it. So, the question is—what are the benefits of a larger lens? Mostly, it's the lens's capability to capture more light and make the image brighter. A better color rendition and a more detailed image will be a part of the deal as well. Large lenses do a far better job of capturing details in the shadows, too. That said, if you like to travel light, you might want to go with a smaller pair of binoculars. Full-size binoculars are way too heavy to hold with one hand for a long time. Plus, you'll have to pay less for a compact model. What's the Right Binocular Size for Me? This greatly depends on what you're planning on doing with the device. If it's hiking, 8x25 will be a great place to start. However, for boating, anything lower than 8x42 won't cut it: the binoculars simply won't be able to handle the task. So, yes, it all comes down to your specific needs. Our experts put together the following chart to help you pick the right binoculars for each purpose: Binocular Magnification Chart Activity Magnification Power Lens Diameter Bird watching 8x, 10x 32, 42, 50 Hiking/backpacking 8x, 10x 25, 28 Hunting 7x, 8x, 10x 40, 42, 50 Whale watching 8x, 10x 32, 42 Wildlife viewing 8x, 10x 32, 42 Paddling 7x, 8x, 10x 32, 42, 50 Sporting Events 6x, 7x, 8x, 10x, 12x 25, 28, 32, 42 Concerts 3x, 4x, 8x 20, 25, 28 Stargazing 10x 42, 50 The chart should give you a basic understanding of what type of binoculars to buy for your hobbies. As you can see, in most cases, there are multiple options to choose from. Now, if you want to learn more, read our detailed breakdowns of popular binocular uses and the ideal magnification power and size/lens diameter combos: 1. Bird Watching Image Credit: HTWE, Shutterstock For birding, 8x32 and 8x42 binoculars are the best offers on the market.



How do you know which model is right for you?

Don't worry—we've got your back! In this guide, we'll talk about the ins and outs of binocular strength and size. Next, we'll cover the best specifications for different hobbies (like bird watching or stargazing) and learn how to pick the best field glasses for your outdoor activities. Let's get started! Power & Size: What Do These Specs Stand For? For binoculars, the two most important parameters to check are the magnification strength and size or, rather, the objective lens diameter. Thus, if you see something like 10×32, that means that instrument can make the target appear ten times closer. In simpler words, a pair of 10x binoculars will make a bird, rabbit, or elk that's 1,000 miles away look like it's just 100 miles away.

With 8x, you'll get a wide field of view; 10x offers a more detailed image. As for the lens diameter, it describes the size of the device, with the most popular options being compact, average, and large. Compact binoculars have a <30mm lens size. They're the most lightweight option on the market. Mid-size models, in turn, are rated at 30-40mm. Finally, the biggest binoculars come equipped with 40mm+ lenses. Image Credit: stevepb, Pixabay How Big Is Big Enough?

A Quick Look To put things into perspective, an 8×42 pair of field glasses will be around 30% heavier and 20% bigger than an 8×32 pair. The difference between an 8×32 and an 8×25 device will be lower, but you'll still feel it. So, the question is—what are the benefits of a larger lens? Mostly, it's the lens's capability to capture more light and make the image brighter. A better color rendition and a more detailed image will be a part of the deal as well. Large lenses do a far better job of capturing details in the shadows, too.

That said, if you like to travel light, you might want to go with a smaller pair of binoculars. Full-size binoculars are way too heavy to hold with one hand for a long time. Plus, you'll have to pay less for a compact model. What's the Right Binocular Size for Me? This greatly depends on what you're planning on doing with the device. If it's hiking, 8×25 will be a great place to start. However, for boating, anything lower than 8×42 won't cut it: the binoculars simply won't be able to handle the task. So, yes, it all comes down to your specific needs. Our experts put together the following chart to help you pick the right binoculars for each purpose: Binocular Magnification Chart Activity Magnification Power Lens Diameter Bird watching 8x, 10x 32, 42, 50 Hiking/backpacking 8x, 10x 25, 28 Hunting 7x, 8x, 10x 40, 42, 50 Whale watching 8x, 10x 32, 42 Wildlife viewing 8x, 10x 32, 42 Paddling 7x, 8x, 10x 32, 42, 50 Sporting Events 6x, 7x, 8x, 10x, 12x 25, 28, 32, 42 Concerts 3x, 4x, 8x 20, 25, 28 Stargazing 10x 42, 50 The chart should give you a basic understanding of what type of binoculars to buy for your hobbies. As you can see, in most cases, there are multiple options to choose from. Now, if you want to learn more, read our detailed breakdowns of popular binocular uses and the ideal magnification power and size/lens diameter combos: 1. Bird Watching Image Credit: HTWE,

Shutterstock For birding, 8×32 and 8×42 binoculars are the best offers on the market. But wait: why not go with a 10x device instead? Won't it do a better job of magnifying the target? Technically, yes, it will make it look bigger. However, for bird watching, the field of view is more important, and it will be wider with an 8x instrument. Now, you could go with 8×50, but those binoculars will be significantly heavier. Instead, you'll be better off investing in weather and impact resistance, along with the anti-fog feature. Otherwise, the binoculars will be damaged by water and dirt, break when bumped, and fog up when you grab them from the backpack. 2. Hiking & Backpacking Image Credit: HTWE, Shutterstock When you're one on one with the Great Outdoors, hiking, camping, and backpacking, every single pound counts. That's why lightweight binoculars are the best choice here. Compact field glasses will be perfect for this activity. We're talking about 8x or 10x and a lens diameter of 25 or 28. All these options—8×25/28 or 10×25/28—will be more than enough for a hiking trip. Again, look for an instrument with a weather-resistant finish. For example, rubber coating is durable, water-resistant, and not at all heavy. 3.

Hunting Image Credit: PRESSLAB, Shutterstock In most scenarios, a magnification of 7-10x is enough to cover a hunter's needs. Now, you might be tempted to go for something bigger, but don't forget about the importance of image clarity/steadiness. For finding tracks, even 7x will be plenty. As for the objective, 40-42 is the "sweet spot". True, a pair of binoculars with such a large lens won't be cheap. But, it will be a reasonable investment in the long run. Oh, and if you mostly hunt early in the morning or late in the evening when there isn't much sunlight available, a 10×50 pair of field glasses will be more appropriate. Sometimes, 8×32 or even 8×30 could also work, but, for the most part, 8×40 is the safe bet. 4. Wildlife & Whale Watching Image Credit: Maridav, Shutterstock Do you prefer safaris,

wildlife viewing, and whale watching over hiking, birding, and hunting? Then an 8×32 binocular is probably what you're opting for. Now, 10×32 is also a great choice, but if you want more precision, we'd recommend an 8×42 or 10×42 pair of binoculars. Planning on watching the wildlife from afar? Then 8×32/42 magnification power won't always cut it; only 10x will be able to handle the task. The fans of whale watching should only use 100% waterproof instruments. Otherwise, their binoculars might be ruined by all the water. 5. Paddling Image Credit: CL-Medien, Shutterstock People that like to set sails on a kayak or canoe and watch whales and other marine creatures often use 8x binoculars. You can, of course, try your luck with a 10x model, yet it won't be easy to get a steady viewing experience with such magnification strength. And what about 7x—will it be a reasonable pick here or not? The short answer is yes, it will be. That device will be lighter and more compact, not to mention cheaper.

Still, for the most part, boating enthusiasts buy 8×32 or 8×42 binoculars. Next, 8×50 is also a possibility; it will be a bit too much for most paddling fans, though. 6. Sporting Events Image Credit: Den Rozhnovsky, Shutterstock If you mostly take boat trips and rarely do anything else, you should be able to enjoy a sporting event with your trusty binoculars. That's because 8×32 and 8×42 are all great choices for having an immersive experience at a football, baseball, or rugby game. The same goes for tennis, derby, and other sports. Speaking of magnification strength, you can even go as low as 7x or 6x for indoor sports. We're talking about a theater show. Larger arenas are slightly more challenging and might require 8-10x magnification. And if it's a full-fledged outdoor spectator sport, 8-12x is the recommended pick. As for the lens diameter, 25 and 28 can be just as great as 32 or 42. It all comes down to the specific sporting event and your personal preferences. 7. Concerts Image Credit: Rick Beauregard, Shutterstock And what about concerts? What kind of binoculars do you need to fully enjoy a rap/rock/country show? Well, if it's a stadium show, 7x or 10x will be the perfect magnification. You won't have a hard time focusing on various targets, and the scaling will be more than enough. That said, if you're going to a concert hall, 8x, 4x, or even 3x are the preferred choice.

The lens diameter varies as well. To play it safe, go with 20 or 25; 28 works as well. In any case, compact binoculars are the way to go here. They're cheap, lightweight, easily fit in an average-size backpack, and won't put extra pressure on your hands. 8. Stargazing Image Credit: AstroStar, Shutterstock For watching the stars, the bigger the binoculars, the better: anything lower than 10×42 shouldn't even be on the menu. Instead, you might want to invest in a 10×50 pair of field glasses. True, that purchase won't be cheap. Furthermore, a 10×50 model will require a tripod to hold it in place. But, if you're serious about stargazing and want to get the best binoculars for that, do save a bit and get the best option on the table. FOV vs Lens Size: How Do They Affect the Image? The first thing that most buyers look at is, of course, the magnification power. After that, they jump straight to the objective lens diameter (the second number in the 8×32 or 10×42 specs). However, the field of view also plays a crucial role. Here's how it works: the higher the magnification strength, the lower the field of view will be, and vice versa.

And a smaller FOV makes the images a bit darker. That's because it fails at gathering enough light. As for the diameter, the larger the lens, the more light the device will be able to capture, making the image much brighter and clearer. Summing up, these three parameters (magnification, FOV, and lens diameter) are intertwined, and you can't focus solely on one feature and expect to get the perfect binoculars for the task at hand. More Specs to Keep in Mind Alright, now that we've covered all the important specifications, here's a quick look at some extra parameters to consider: Build quality. Most brands put "weather-resistant" in the specs, but these binoculars are NOT 100% waterproof.

Light rain is all they're good for. Waterproof models, in contrast, can survive heavy rain but no water dipping. A rubber coating will protect the device from accidental bumps. Oh, and make sure you get a fog-proof pair of field glasses.

Prism type. There are two choices here: porro prisms and roof prisms. Porro prisms are heavier and larger, but you'll get a wider FOV, higher clarity, and overall better image quality. But, if you're looking for something compact, more durable, and with better magnification, buy a pair of binoculars with a roof prism. That will cost more, though. Exit pupil. This parameter is calculated by dividing the diameter by the magnification power. For example, 10×32 binoculars will have an exit pupil of 3.2mm. The lower this number, the darker the image will be. In low-light conditions, aim for 5.25 mm. But if it's sunny outside, even 2mm will do. Eye relief. If you don't wear any glasses, you can just skip this part. However, if you can't hit the road without your favorite pair of "goggles", look for an eye relief of 11mm+. Most modern-day binoculars can be easily adjusted until you find the ideal eye relief, which is a big pro. Conclusion Binoculars come in different shapes and sizes, and there are no one-fit-all models: each task/purpose needs a specific pair of field glasses. For example, if you mostly go to sporting events, you'll need a 6×28 or 8×32 device. Or maybe you like to watch wildlife? Then opt for 8×42 or 10×42. That's why many pro hunters/watchers have multiple binoculars.

If you're perplexed by all these specifications, that's completely normal! You can check out our detailed chart for a quick guide on which instrument to buy for various activities.

And once you learn your way around terms like "lens diameter" and "magnification power", it will be much easier to pick your own binoculars! See also: Featured Image Credit: Creative Family, Shutterstock Before buying a pair of binoculars for hunting or birding or for astronomy, it is crucial to understand what do the numbers on binoculars mean. These numbers provide you with a wide range of information about the binoculars, all of which will help you to buy a pair that is right for you. Let's look at these numbers in more detail. 1. What do the Magnification Numbers on Binoculars Mean?The magnification number on binoculars is expressed as part of a combination of two figures, for example 8x40 or 10x25.The first figure (8x, 10x) refers to the power of magnification. Binoculars with an 8x magnification will make objects appear 8 times closer than they are. The higher the number, the closer objects will appear through the lenses.Extreme magnifications (12x and up) make it difficult to maintain a steady image, unless you have the binoculars stabilized on a solid object like a table or a wall. You also get zoom binoculars, which offer an adjustable magnification range.The number following the magnification power is called the objective lens size, also referred to as aperture. This is a critical number, because it indicates how much light the lenses are able to gather. A 10x50 binocular will have a 50mm objective lens size, a 7x35 will have a 35mm objective lens size, etc. Wider lenses usually also increase the size of the binoculars.The wider the objective lens size, the brighter the image you'll see thanks to more light being gathered through the lens. This number is most important for night sky viewing, or other low light conditions.Here's a simple question to demonstrate this: which of a 10x25 or a 10x50 binocular will be best for viewing the night sky? The answer is, of course, the 10x50. You'll see many more distant objects in the night sky thanks to the wider aperture.Angle of view walks hand in hand with field of view as they refer to the same thing: the amount of horizontal scenery that is visible when looking through the binoculars. We will discuss them separately to avoid confusion, and show you how to convert one to the other if needed.First, angle of view (AoV):AoV is always expressed in degrees. The higher the number, the wider the area you'll be able to see. Anything over 6 degrees can be considered a good angle of view.If you see a really high degree number, like 72 degrees, the manufacturer may be using actual angle of view. This number is reached simply by multiplying the angle of view with the magnification value of the binoculars.For example: a 10x50 binocular with a 7.2 degree angle of view will have a 72 degree actual angle of view (7.2 x 10 magnification).Field of view (FoV) is not expressed in degrees, but in either:feet per 1,000 yardsormeters per 1,000 metersAgain, a higher number simply means you'll have a wider horizontal view through the lenses.

Typically you can consider a FoV of about 300 to 375 feet as adequate. Remember though that the higher your magnification, the smaller your field of view will be due to the object being brought closer.Finally, here's how you convert angle of view to field of view:Multiply the angle of view by 52.5So, a 7.2 degree angle of view equals a 378 feet field of view7.2 x 52.5 = 3787.2 x 52.5 = 378Width of field of view is measured by the manufacturer in feet at 1,000 yardsThe eye relief number on binoculars is mostly important only if you wear glasses.

It tells you how far away from the eyepiece your eyes can be while still being able to enjoy the full field of view that the binoculars offer.If you wear glasses, you'd want an eye relief of at least 15mm.The easiest way to understand this number is to hold a pair of binoculars about 8 inches from your eyes. The two dots you'll see in the center of the eyepieces are where the light from the lenses hits your eyes to allow you to see the image you're focusing on.These need to be greater than your pupils. The value is easily calculated by dividing the objective lens diameter with the magnification. A 10x50 binocular will have a 5mm exit pupil, while an 8x25 will only have a 3.1mm exit pupil.Anything larger than a 4mm exit pupil should be fine for most conditions, but bigger is better.Our final entry in this article about what do binocular numbers mean is close focus. This number tells you the minimum distance the binoculars need to focus. For example, a close focus of 13 feet means you can get a perfect focus on an object as close as 13 feet to you.Now you no longer have to be daunted by the question of what do the numbers mean on binoculars. Let's give you a quick checklist to help you remember the most important points:for night sky or low light viewing, a high objective lens diameter is importantgreater magnification means a smaller field of viewlook for an eye relief of more than 15mm if you wear glassesan exit pupil of more than 4mm is recommended for night viewingpay attention to a short close focus if you want to magnify very close objectsWhat does the numbers mean on binoculars? You now know the meaning of all the most important ones.

Keep this guide handy when you shopping for binoculars to find the one that's right for you.Get a nice big aperture if you want to see as many stars as possible, and a smaller aperture if lighter weight and portability are important to you. Beware of magnifications higher than 12x if you don't want too shaky an image without support, while also maintaining a decent field of view.You'll be able to figure out all these considerations for yourself with the help of this guide. Good luck on buying the perfect pair of binoculars for your needs!