mystery science

Grades K-5
Mini-Lesson + Activity: “What is the biggest spider in the world?”

VIDEO TRANSCRIPT

MINI-LESSON VIDEO 1

Hi, it's Doug! I want to talk about spiders—and not fake ones like this decoration either—real spiders. Now, I know some people consider spiders incredibly creepy. But other people even keep them as pets. I'm one of them. Are you ready to see this? This is my pet tarantula. Her name is Goldie. She's not the first tarantula I've ever had, but she's the first one I've had that's incredibly calm. She doesn't mind if I hold her, as long as I hold her carefully. I have no idea if you find this amazing or just plain creepy, but I hope you'll keep watching. We've got a question today from someone named Aliyah. Let's give her a call now.

[Video Call]

- Hi, Doug!

- Hi, Aliyah!

- I have a question for you. What is the biggest spider in the world?

- That's a great question.

Before I say anything more, take a moment to talk to someone near you. How do you feel about spiders, and what's the biggest spider you've ever seen?

MINI-LESSON VIDEO 2

Seeing the biggest spider in the world might be a little scary. The fear of spiders, it's called arachnophobia—and it's understandable. Many spiders don't exactly look cuddly. Here's the thing, though—most spiders almost never harm people. In North America, where I live, lots of people get kind of freaked out by spiders like this—the black widow. Or this one too—the brown recluse. Both of these spiders are venomous, but they almost never bite people. They save their venom for their prey—the tiny insects that they eat. But other spiders, you could even say there's something kind of cute about them. Look at this one. Or my personal favorite, check out this one. It's called the peacock spider, and it does a little dance. But whether you find them cute or not, spiders are definitely interesting. Look at all those eyes and all those legs! And just the sheer variety of spiders in the world—there are so many different kinds of spiders, different species. Some of them have incredible colors, like this tarantula called the greenbottle blue. It's a nighttime hunter of South America. Or this one from Hawaii. Look at the pattern on its bottom end. Would it surprise you if I told you that this spider is called the happy-face spider? And it's not just spiders' looks that can be fascinating. So many of them have incredible behaviors too, like this spider. There, did you see that? It hides right among its prey, and—watch again. This spider is called a trapdoor spider. Or check out this one called a fishing spider which actually has the ability to move on the surface of the water. Here's another interesting behavior. It's called a crab spider, and it surprise-attacks its prey. But to Aliyah's question, of all these different species, which is the biggest spider in the world? This is actually a surprisingly difficult question to answer. You see, in order to know exactly what the biggest spider is, scientists have to go out and search for all the different species of spiders on Earth. For a long time, the biggest spider known is one that's as big as a dinner plate. Are you ready to see this thing? It's this. It's

called the Goliath birdeater, and it lives in the rainforests of South America. Despite its name, it doesn't usually eat birds, but it's big enough that it could if it wanted to. Even though it may seem scary, these spiders only bite people if they're threatened, and even then, the bite is no worse than what a bee sting would feel like to most people. However, in 2001, the record for the biggest spider in the world was challenged. Scientists working in a cave in Southeast Asia discovered a type of spider that no one had noticed before. They called it the giant huntsman, and while it's not heavier than the Goliath birdeater, it does have longer legs. Here's a video of one of the huntsman's smaller cousins. Even this one has long legs. So, in summary, figuring out what's the biggest spider in the world really depends on what you mean by biggest. If you go by leg length, the giant huntsman wins. If you go by overall size and weight, the Goliath birdeater still holds the record. Could there be an even bigger spider somewhere out there in the world? The fact that scientists are discovering new species each year means it's still possible. That's all for this week's question. Thanks, Aliyah, for asking it. Now, after this video's done playing, my friends and I here at Mystery Science have created a step by step activity where you can make your own spider and see how fast it can run away from you. I hope you'll try it. Have fun and stay curious!

ACTIVITY: GRADES K-2

ACTIVITY INTRODUCTION VIDEO

Today, you're going to make a spider that runs away from you. You'll start by choosing one of these spiders that you'd like to get to know better. Maybe it's a spider that you find a little scary, or maybe it's a spider that you think is actually cute. Maybe it's a spider you just think is really

interesting. It's your choice. You'll choose which one, get to know a bit more about it, and color its picture. Then you'll learn how to make your spider run. I'll show you how to get started, step by step.

ACTIVITY STEP 1

Find a partner. If you're working alone, that's okay too. When you're done with this step, click the arrow on the right.

ACTIVITY STEP 2

You're going to get to choose which of these spiders you want to color. Before you choose, though, check out the next few steps. We'll show you some videos of these spiders in action. First, discuss these questions.

ACTIVITY STEP 3

Each spider has a different way of catching its food. Have a look at how the jumping spider catches its food.

ACTIVITY STEP 4

Now, let's see how the crab spider hunts for its food. Notice how the crab spider uses its front legs to catch its food? Also, notice how some crab spiders are camouflaged. Their color helps them blend in with the color of the flower. Insects don't even see them.

ACTIVITY STEP 5

Okay, last, let's watch the orb-weaver spider catch an insect in its web. See how it uses its long legs to wrap the insect up so that it can't get away?

ACTIVITY STEP 6

Okay, now it's time to choose the spider you'll color.

ACTIVITY STEP 7

Get your supplies. Each person needs these things. You only need to get the spider page you chose, not all three.

ACTIVITY STEP 8

Okay, now it's time to color your spider. Here are their real colors, but you can color them any way you want to. There are spiders in all sorts of colors. I'll set a timer, in case that's helpful, but don't feel rushed. If you don't finish, you can always finish coloring later. Okay, the timer's going to get started now. Okay, it's been two minutes. I suggest you go to the next step. You can always finish coloring later.

ACTIVITY STEP 9

Now, it's time to get your spider ready to run. Turn your spider template face down, and put a black piece of paper on top. Try to line up the corners, but it's okay if it's not perfect. Fold both sheets in half, like this. Run your fingernail over the fold to make a nice crease.

ACTIVITY STEP 10

Find one end of the string. Have your partner get a sticker, and hold it up, like this. Lay the string in the middle of the sticker, like this. And then wrap the string around, like this. Then, fold the sticker in half to secure it. Then do the same thing to the other end of the string. Now help your partner do this step.

ACTIVITY STEP 11

Now we're going to give your spider a string to climb on. Have your partner hold one end of the string, like this, right below the fold line. Then, fold down the triangle and crease it with your fingernail. Cover the dotted rectangle with your tape or sticker. Push the sticker down really well. Now help your partner do this step, too.

ACTIVITY STEP 12

Do it again on the other side. Have your partner hold the string while you fold down the corner. Then, add a sticker to secure it. When you're done, there will be a long loop of string coming out of the top. Just like that. Now help your partner do this step.

ACTIVITY STEP 13

Your spider's almost ready! The last thing to do is to fold on this line. Use your ruler, like this, to help you fold it.

ACTIVITY STEP 14

Does your spider match ours? With your partner, use our checklist to make sure. When you're done, you can go to the next step.

ACTIVITY STEP 15

With your partner, decide who'll be Spider and who'll be Fly first. Don't worry, you'll switch roles later.

ACTIVITY STEP 16

Take your ruler and your spider and find a place to stand up with your partner. Spider: hold your spider. Fly: put the ruler through the loop of string, like this. Hold the ends of the ruler like this, with one hand on top and one hand on the bottom. Be careful not to pinch the string.

ACTIVITY STEP 17

Spider: hold one end of the string in each hand. Pull your spider to the ends of the string if it isn't already. Then, tug gently on one end and then the other. You don't have to pull hard. In fact, gentle pulls often work better.

ACTIVITY STEP 18

Switch roles and let the other spider run. Have fun and stay curious!

ACTIVITY: GRADES 3-5

ACTIVITY INTRODUCTION VIDEO

Today you're going to make a spider that runs away from you. You'll start by choosing one of these spiders that you'd like to get to know better. Maybe it's a spider that you find a bit scary, or maybe it's a spider you think is actually cute. Or, maybe it's a spider that you just think is really interesting. It's your choice. You'll choose a spider, get to know a bit more about it, and draw its picture. Then, you'll learn how to make your spider run. I'll show you how to get started, step by step.

ACTIVITY STEP 1

Find a partner. If you're working alone, that's okay too. When you're done with this step, click the arrow on the right.

ACTIVITY STEP 2

Go ahead and get your supplies. Each person needs these things.

ACTIVITY STEP 3

In a few moments, you'll choose one of these spiders to draw. But first, have a look at all three in action. Go to the next step to get started.

ACTIVITY STEP 4

Each spider has a different way of catching its food. Have a look at how the jumping spider catches its food.

ACTIVITY STEP 5

Now let's see how the crab spider hunts for its food. Notice how the crab spider uses its front legs to catch its food. Also, notice how some crab spiders are camouflaged. Their color helps them blend in with the color of the flower. Insects don't even see them.

ACTIVITY STEP 6

Okay, now let's watch the orb-weaver spider catch an insect in its web. You see how it uses its long legs to wrap the insect up so that it can't get away?

ACTIVITY STEP 7

Choose which spider you want to draw now. Write your spider's name on the spider template. This should only take a few seconds.

ACTIVITY STEP 8

Let's start by drawing the spider's body. You may have noticed that each spider's body has two main parts. The top part, which we'll call the head, scientists call the cephalothorax. It's actually a combination of the spider's head and chest. To draw the spider's head, you can trace the

dotted circle on your sheet. Then, notice the lower part of the spider's body. That's called the abdomen. What shape is it? Go ahead and draw it too.

ACTIVITY STEP 9

Discuss.

ACTIVITY STEP 10

You may have noticed that the legs connect to the upper part of the body, what we call the head or scientists call the cephalothorax. Draw a dot showing where each leg connects. This will help you in the next step.

ACTIVITY STEP 11

Discuss. Are some of your spider's legs longer or shorter than the others? Also, pay attention to which way they point. After discussing, go ahead and draw the legs. Now, keep in mind, your sketch doesn't have to be perfect. Just take a couple of minutes.

ACTIVITY STEP 12

You've been drawing your spider from above, the way you usually see spiders. But it's hard to see your spider's eyes from the top, so take a look at each spider's face from the front. Then discuss.

ACTIVITY STEP 13

Here are the spider's eyes viewed from above. We've circled them for you since they're a little hard to see. Each spider has eight eyes. Go ahead and draw in your spider's eight eyes now.

ACTIVITY STEP 14a

Now that you know a little bit more about your spider, discuss.

ACTIVITY STEP 14b

Here are some things we thought about. Some crab spiders are camouflaged and they have long front legs to help them grab their prey. Orb-weaver spiders have long legs that let them step from strand to strand on their webs. And also, that help them to easily wrap up their prey. Jumping spiders have big eyes that help them spot their prey and powerful legs for pouncing.

ACTIVITY STEP 15

Now, it's time to get your spider ready to run. Turn your Spider Template face down. Then put a blank piece of paper on top. Try to line up the corners, but it's okay if it's not perfect. What you want to do is fold both sheets in half, like this. Run your fingernail over the fold to make a nice crease.

ACTIVITY STEP 16

Find one end of the string. Have your partner get a sticker and hold it up, like this. Lay the string in the middle of the sticker like this and wrap it around. Then, fold the sticker in half to secure it. Do the same to the other end of the string too. Now, help your partner do this step.

ACTIVITY STEP 17

Now we're going to give your spider a string to climb on. Have your partner hold one end of the string, like this, right below the fold line. Then, fold down the triangle, and crease it with your fingernail. Cover the dotted rectangle with your tape or sticker. Be sure to push the sticker down really well. Now, help your partner do this step.

ACTIVITY STEP 18

Okay, do this again on the other side. Have your partner hold the string while you fold down the corner. Then, add a sticker to secure it. When you're done, there will be a long loop of string coming out of the top like this. Now, help your partner do this step.

ACTIVITY STEP 19

Your spider is almost ready. The last thing to do is to fold on this line. Use your ruler, like this, to help you fold it.

ACTIVITY STEP 20

With your partner, decide who will be the Spider, and who will be the Fly. Don't worry, you'll switch roles later.

ACTIVITY STEP 21

Okay, take your ruler and your spider and find a place to stand up with your partner. Spider: hold your spider. Fly: put the ruler through the loop of the string, like this. Hold the ends of the ruler like this, with one hand on top and one on bottom. Be careful to not pinch the string.

ACTIVITY STEP 22

Spider: hold one end of the string in each hand. Pull your spider towards the end of the string if it isn't already. Then tug gently on one end and then the other. You don't have to pull hard. In fact, gentle pulls often work better.

ACTIVITY STEP 23

Switch roles and let the other spider run. Take the time to color your spider later. Have fun and stay curious!