Lesson: “Why would a hawk move to New York City?”

VIDEO TRANSCRIPT

EXPLORATION VIDEO 1

Hi, it's Doug! A few weekends ago, I was at a park in the city with some friends of mine, and we had some food with us. And like you might expect in a city park, there were a lot of these—pigeons. When we got there, my friend was like, “I hate pigeons!” I don't know how you feel about pigeons, but we all know pigeons are the most common bird you find in a city. My friend was getting a little annoyed that day because every time he'd turn away from his food to talk to me, these pigeons would come up and try to grab at it. My friend had to keep shooing them off over and over, but it didn't matter. The pigeons kept coming back. So finally, at one point, he yelled, “Get away!” And every single pigeon took off. My friend was like, “Ha, finally.” But I realized something. I said, “I don't think it was actually you who scared those pigeons off. Look up,” I said. And sure enough, we both looked up, and there was this: a red-tailed hawk circling overhead. “Is that a hawk?” my friend said. “I didn't know those lived in cities. How did you know to look for that?” There were a couple of clues. First of all, if you've ever spent time in a city, then you know it's actually pretty hard to scare away pigeons. They're not afraid to come right up to people, probably because they've learned we have delicious, tasty treats. The second clue is that, even though pigeons live in cities and seem not to be scared of anything, they do have one thing they're really scared of, and that's their predators—animals that hunt and eat them. Everyone knows about city pigeons, but people are surprised to find out that hawks

and falcons are starting to live in cities now, too. And they're doing really well. Some city hawks are even famous, like this red-tailed hawk who lives in New York City's Central Park. The people of New York City love this guy. They've named him Pale Male because he's a boy and he has some pale-colored feathers on his head. In order to live in a city, there are really only a couple of things that a predator, like Pale Male, needs access to. In the wild, hawks prefer high places to build their nests, places like the side of a cliff. But Pale Male has figured out that in the city, skyscrapers work just as well for that, so no problem. And then, of course, any predator needs prey, the animals that it eats in order to stay alive. In the wild, hawks prey on small birds. You know cities are full of those. So it's surprising to find wildlife other than pigeons living in cities, but you can find wildlife like hawks and falcons. And that's because every animal has some other living things that it's linked to. Pigeons are preyed upon by hawks and falcons. So where there are pigeons, there are hawks and falcons around, too. Or, as another example, consider this squirrel. Think about what kind of living things it's linked to. Whenever you see an animal, you could always discover the links to other wildlife by asking two simple questions: “What does it eat?” and “What is it eaten by?” I call these the food chain questions. So think about the squirrel. If you saw this squirrel in your neighborhood, which living things should you also be able to find near you just by asking the two food chain questions?

EXPLORATION VIDEO 2

With any animal, by asking the two questions—what does it eat and what's it eaten by—you can always spot a link that the animal is part of. You might have heard that scientists call this a food chain, and here the squirrel is in the middle of the food chain. What does it eat? Acorns, which grow on oak trees. What's it eaten by? There are a few different predators that eat squirrels. A cat is one example. So there's a food chain linking cats to squirrels to oak trees. Now even if

you're in a place where you don't think there's any interesting wildlife, I think you'll be surprised by what kinds of animals and plants you can find if you think about the food chains. You might even find plants and animals you didn't even know existed. One of my favorite tricks for finding creatures is to look for rotting logs on the ground. If you carefully roll one over, like this guy's doing here, there's almost always some kind of interesting little bugs, like this little millipede here, or sometimes toads and tree frogs, too. For example, I live in a city. Next to my apartment is this little yard that I share with our neighbors. Now I really never would have thought anything interesting could live in this little yard. But a few weekends ago, I noticed there was an old board lying on the ground, probably leftover from construction. I thought, well, let's see if my log-rolling trick really works. Sure enough, when I rolled it over, I found this. It's a beetle. They have these little pinchers. And I wondered, well, what do they eat? When I went online and looked up what they ate, I read that they like to find and eat the caterpillars of moths. When I saw that, I was like, wait a second, there's a link I didn't even realize. Living near my apartment are moths that fly into our stairwell every night outside our front door. When I get up in the morning and I walk down the stairs, I always wind up seeing those interesting moths on the walls. So I suddenly realized all those moths I'd seen living in our stairwell had hatched from caterpillars that didn't get eaten by the beetles in the side yard. I thought, hmm, OK, so that's what the beetles eat. But then I asked myself the other food chain question—what are the beetles eaten by? As I kept looking under that wooden board, I saw something else, too. It tried to hide from me. It scurried and buried itself in the mud. I was like, wait, what is that, a snake? But it had legs. I couldn't tell what it was at first, but as I carefully picked it up, I realized it was this. Do you know what this is? It looks a bit like a lizard, but it's not a lizard. It's called a salamander. Salamanders are amphibians. They're like frogs with long tails. They even start out in life as little tadpoles. I was so excited to find this. I couldn't believe I could find a salamander living in the city right outside

my window all this time. When I looked them up on the internet, guess what? I found out they eat beetles. So there was an entire food chain happening right there in my little yard in the city—salamanders, which eat beetles, which eat tiny moth caterpillars—all of this happening under a wooden board in my yard. What could you find where you live? Well, try my trick of looking for a log to roll over. Don't be scared. There's usually very little that can hurt you. If you do have any wildlife in your area that could be harmful, talk about that with a teacher or a parent. You might need to shake the log with your foot first. And always be sure to be gentle when you roll a log over. Place it back carefully. You wouldn't want to crush any little salamanders or beetles that live under it. Whether you find something under a log or in a tree or in the grass, when you do find a creature you're interested in, remember to ask yourself the food chain questions. What does it eat? And what's it eaten by? When you ask these questions, I guarantee you it will lead you to some other interesting links. So take a moment now. What are some animals you think you might be able to find in your neighborhood? And what if you asked the food chain questions? Does it lead you to think of any new animals to look for?

ACTIVITY INTRODUCTION VIDEO

In today's activity, you're going to play a card game called Eat or Be Eaten. In this game, you'll make food chains using animals and plants. You may have seen these animals and plants before, but you may not have thought much about what they eat or what eats them. There are a few dozen cards that look like this. The text on each card tells you what a plant or animal eats or what it's eaten by. You're going to pick cards from a stack and use the cards to make food chains. You make a food chain by setting cards side by side so an animal is next to its food. Here's a very simple food chain. Beetles eat caterpillars. But you'll get more points for a long food chain. So you need to think about how to make a chain that's longer than just two cards.

You can add to the end of this chain by asking, well, what does the caterpillar of a moth eat? By reading the card, you'll find out that they eat rotting wood, like this log. Now you can also add to the other side of the chain by asking, well, what eats beetles? One animal that eats beetles is a raccoon. So you could add a raccoon to the beginning of the chain. If you're really sneaky, you can look for ways to make a chain longer from the middle by asking yourself, well, what else eats beetles? It turns out frogs eat beetles, and raccoons eat frogs. Now there are more than four cards in the food chain. For a food chain this long, you'll get bonus points. You can make more than one food chain at a time, too. Make as many food chains as you can. OK, here we go. I'll walk you through how to play, step by step.

ACTIVITY STEP 1

Get into groups of four. These will be the people you're playing against. You can also play in groups of two or three. When you're done with this step, click the arrow on the right.

ACTIVITY STEP 2

Get your supplies. Each group needs one set of card sheets and a rules sheet. Each person also needs a pair of scissors and a scorecard.

ACTIVITY STEP 3

Cut the dotted lines on each card sheet to make a set of cards. Make sure you cut all five card sheets so that you have 39 cards.

ACTIVITY STEP 4

One person, mix up the cards. Then put them in a stack face down. After you do this, go to the next step. We'll go through the first round together.

ACTIVITY STEP 5

Let's walk through the first turn together so you know how to play. The first player takes a card, reads the whole card aloud, then puts it face-up in front of them. Any other player should do this now, taking turns. Then go on to the next slide.

ACTIVITY STEP 6

Now the game gets interesting. On the next turn and every other turn, you can either pick a card from the center stack or steal a card from another player if you can use it. But there's one rule. You can't steal a card if it's already part of the food chain. OK, so with that in mind, each player play one more turn now, then move on to the next step for your final instructions.

ACTIVITY STEP 7

Keep taking turns and make as many food chains as you can. If you get confused, check the rules sheet. When you run out of time, or when you run out of cards, go to the next step to figure out your score.

ACTIVITY STEP 8

Fill out your scorecard. Write down your longest chain and figure out your score. Did you win?

Once you figure it out, go to the next slide to discuss.

ACTIVITY STEP 9

Discuss.

ACTIVITY STEP 10

Discuss.

ACTIVITY STEP 11

Discuss.