mystery science

Grades K-5
Mini-Lesson: “Can my pet understand what I'm saying?”

VIDEO TRANSCRIPT

Hi, it's Doug! Have you ever seen a pet do this? These dogs look like they're taking a nice relaxing nap. But watch what happens when their owner says this.

- Hey, where's that squirrel?

When they hear the word squirrel, the dogs immediately leap up and rush outside. It's like they understand English. I mean, at least they seem to know the word squirrel. Do they really understand our language? Someone named Zen has a question about this. Let's give Zen a call now.

[Video Call]

- Hi, Doug!
- Hi, Zen!
- I have a question for you. Can my pet understand what I'm saying?
- Ooh, that's a great question.

Let's get Esther's help on this one. She loves learning about the amazing things animals can do. Let's give Esther a call now.

- Hey, Doug. I'm so glad you called me. I've wondered about this question myself. Scientists learn a lot about animals by observing them. So I'm curious, what have you observed? Have you ever talked to a cat or a dog and did it seem like they understood you? How could you tell if they did or they didn't?

It can be hard to know for sure whether a pet gets what you're saying.

- I love you.

Unlike people, they can't talk back to you and tell you what they understand. But maybe you've noticed that sometimes pets seem to respond to what humans say through their behaviors. Like those dogs responded to their owner saying squirrel by jumping up and running out of the room. Scientists have found ways to use our pets' behavior to test what they can learn. This is Chaser. Chaser's owner, John was a scientist who was curious about how much spoken language a dog could learn. So he bought Chaser this huge pile of toys. I know. Super lucky dog. But these toys weren't just for fun. Chaser was part of an experiment. John gave each of the toys a name, like frisbee, seal, and inky. Then one by one, he taught Chaser the name of each toy. He also taught her names for some of her favorite people and places, including a name for him, Pop Pop. You may already know these kinds of words. Words for people, places, and objects are called nouns. John also taught Chaser several different verbs. Words for actions, like find, take, and touch. John tested Chaser's knowledge by training her to respond to commands that combine the nouns and verbs that she'd been taught. For example, John might say.

- Chaser, take frisbee. Good girl, good girl.

If Chaser found the right toy, even when it was buried in a pile of her other toys, then John knew that she'd learned the word. Over three years, Chaser learned to recognize more than 1,000 nouns and verbs, including the name for every toy in her enormous pile. So from Chaser's impressive work, we know that dogs can learn many spoken words. And you don't have to know a dog as well-trained as Chaser to see dogs respond to another important part of human speech. Maybe you've noticed that if you talk to your dog in a happy, loving voice, they react differently than if you speak in an angry, serious voice. Your tone of voice, or the way you say something, communicates almost as much as your words do. And most dogs learn to respond to big differences in tone of voice naturally, even without formal training. But still, there are limits to what we think dogs can understand from our speech. Chaser could understand simple sentences, but that's about it. And remember, Chaser lived a really unique life. She was trained for four to five hours every day. Most dogs probably don't understand quite as much as Chaser did. And other pets, like cats, might understand even less human speech than dogs do. You might notice your cat perk their ears up or walk closer to you when you call them. Cats do seem to recognize their own names. But so far scientists haven't been able to train a cat to recognize anywhere near as many words as Chaser did. Still, just because our pets don't understand every word we say, doesn't mean that they can't communicate with us. Have you ever been sad and noticed your pet acting a little differently? Maybe being more snuggly or giving you a little more space? Well, words aren't the only ways that humans show their feelings. If you're upset, you might cross your arms, hunch over, frown, cry, or even ball your fists up. We call the way we communicate with our body, body language. Body language isn't a formal language like English, or Spanish, or American Sign Language, but our bodies can show a lot about how we think and feel.

- Ahh… What is that?!

Scientists have observed that both dogs and cats seem to change their behavior in response to our body language. So if you think your pet gets how you feel, it's possible that they actually do. Not only that but cats and dogs also have their own body language, which can give us clues about what they think and feel. You may already know where to look for some of these clues. Like, take a look at this puppy. He's wagging his tail and bending down and bouncing around. He looks like he wants to play, right? And take a look at this cat. She's purring and blinking really slowly. That may be a sign that she's happy and content. The more we pay attention to the animals around us, the more we can learn to read and respond to those clues, just as they do for us. So even though our pets may not understand the exact meaning of every sentence we say, there are different ways that we can communicate with our furry friends, from words to our tone of voice, to our body language. In fact, we've gotten so good at communicating with dogs and cats that we sometimes train them to do real jobs alongside people. Some dogs learn to help farmers by herding sheep and cows. Some dogs work alongside people with disabilities, helping their humans navigate spaces and go about their daily lives. And both dogs and cats work as therapy animals, supporting and comforting people in schools, nursing homes, and hospitals. The more we learn about how to communicate, the better we can understand our pets. And who knows what pets and people can learn to do together. That's all for this week's question. Thanks, Zen, for asking!