

Use websites found on the Exploring Learned and Innate Behavior student E-Sheet to respond to the following questions.

Exploring Learned and Innate Behavior E-Sheet:

<http://www.sciencenetlinks.com/Esheet.cfm?DocID=168>



And Baby Counts Three...

Baby Got Math

The researchers sat some babies down in front of two video screens. In one video, two women were saying the word “look.” In the other video, three women were saying the word “look.” How did the babies respond? What did the researchers conclude from the babies’ reactions?

They spent much more time looking at the video image that matched the number of women talking. The researchers concluded that the babies had an innate understanding of numbers using two senses—sight and sound. They made a connection between what they saw and heard.

The researchers conducted a similar study with monkeys as subjects. How was this study different from the one with babies? What did the researchers conclude from this experiment?

They used monkeys that made a cooing sound. They found that the monkeys spent the most time looking at video images that matched the right number of voices. The researchers concluded that both preverbal infants and nonverbal animals have an abstract sense of numerical concepts.

Do you think the monkeys would have responded the same way if they had been watching the videos with women saying “look”? Why?

There is no set answer for this. It is an idea that the students can explore with you during a class discussion.

What is the difference between innate behavior and learned behavior? What are some examples of each?

Innate behavior is behavior we are born with. Examples of innate: Babies sucking their thumbs; flinching when touching something hot. Examples of learned behavior: Throwing a tantrum; interrupting a conversation.

Tool Use

What was so unusual about Jane Goodall's discovery on that October day in 1960?

Until that day, scientists thought only humans made and used tools.

Would you say the chimpanzee's use of tools was innate or learned behavior? Why?

It was learned, because the chimps pass behavior like this down from one generation to the next.

Communication

What are some of the ways chimpanzees communicate in a group? When have you seen humans communicate this way?

Calls, barks, grunts, body posture, facial expressions, presenting the rump, holding out the hand, grooming, grinning, waving arms, swaggering, throwing rocks and branches, charging others are some of the ways chimpanzees communicate in a group. During sporting games like football, in traffic, when people feel inconvenienced or frustrated are times when humans communicate in a similar way.

What are some of the ways you have seen humans communicate in order to maintain agreement and assurance within the group?

Listening carefully to another person when they speak, gestures like hugging and kissing, shaking hands, and being polite with others are ways humans communicate to maintain agreement and assurance within the group.

So Like Us

List some behavioral similarities between chimpanzees and humans and note which behaviors are innate and which are learned.

Innate: Need attention and affection; physical contact; concept of self; emotions.

Learned: Emotional expressions; play; reasoned thought; abstraction; nonverbal communication.

Please note that these answers can be open to debate. Encourage your students to explain their answers.

What does studying chimpanzees and other animals teach us about ourselves?

We are not the only species that has reasoned thought, expresses emotion, or has personalities. Humans and nonhumans are more alike than scientists used to believe.

Blurring the Line

Why were ethologists so shocked at Jane Goodall's research with chimpanzees?

Up to that point, it was standard scientific practice to give subjects numbers, not names. Goodall attributed personalities and emotions to the chimpanzees, which scientists considered unacceptable because it was anthropomorphizing.

What does it mean for science that chimps and humans are so much alike?

We are more alike than scientists used to think, and that means we need to look again at where humans and apes branched off in development millions of years ago. It also beckons us to think further about the relationship of humans and animals on a grand scale.