
SYNOPSIS:

Are animals intelligent? Bees communicate with each other, and monkeys use rocks and sticks to help them get food. Is this instinctual or is it evidence of thought? Some scientists believe that one measure of intelligence is self-awareness, and that an animal's reaction to its own image in a mirror can tell us whether or not it is self-aware.

This program looks at fish, birds, monkeys and primates and their reactions to themselves in a mirror. Researchers look for signs of self-recognition as they observe, record and interpret the reactions of these animals, as well as the reactions of human toddlers.

CURRICULUM UNITS:

Animal Behavior
Physiology
Life Science
Psychology

CAREER OPPORTUNITIES:

Animal Behaviorist
Animal Handler
Beekeeper
Psychologist
Veterinarian
Wildlife Biologist
Zoo Keeper
Zoologist

BACKGROUND INFORMATION**& PROGRAM OVERVIEW:**

Do animals rely solely on instinct, the natural abilities with which they were born, or do they think like human beings do? Are animals self-aware, or do they simply respond to cues in the environment?

Scientists hypothesize that self-awareness is one aspect of intelligence, along with playfulness, and the ability to use tools. In order to detect signs of self-awareness, Dr. James Anderson of the Center for the Study of Primates investigated how animals responded to their reflections in mirrors. He discovered that, when confronted with their own images, most animals reacted as if they were seeing another animal of their own kind. Some responded aggressively like the male Siamese fighting fish, or submissively, like the stump-tailed macaque that turned away from its reflection. Other animals became agitated. Flamingos actually found comfort in the added numbers of birds they perceived and began laying eggs when a mirror was placed in their zoo enclosure.

By observing animal's behavior as they looked at themselves in a mirror, science has taken an important step in understanding the animals that share our planet. The fact that primates were able to respond to their own images with curiosity, interest and playfulness, in a way similar to human two year olds, is an important step in understanding that some animals have greater potential than we might have imagined.

ISSUES AND CRITICAL THINKING:

- 1) After viewing the program, ask your students the following:
 - a) What tool did the researcher use to study self-awareness?
 - b) What reactions did the researcher see?
 - c) What behaviors suggested that animals were self-aware?
 - d) Which animals didn't seem to be self-aware?
 - e) Do students have any doubts about the results of the experiment?
- 2) Discuss some of the aspects of intelligence.
- 3) Discuss the difference between intelligence and instinct.
- 4) Discuss the difference between lower and higher primates.
- 5) Talk about how the recognition of intelligence in animals might affect how they are treated.
- 6) Ask students to discuss the behaviors of their pets. What do they think they mean? Can they duplicate Dr. Anderson's experiment using their pets as subjects?
- 7) Have students gaze at themselves in a mirror for a long time to see if they notice anything about themselves that they never saw before.
- 8) Run the program again without sound. Ask students to write down what they think the animal behaviors mean.

GLOSSARY:

Aggression- hostile or destructive behavior.

Clutch- a nest of eggs or a brood of newly hatched birds.

Dominant- exercising authority of influence.

Instinct- an inborn way of behaving that is common to all members of one species.

Intelligence- the ability to learn and understand from experience.

Migrating- moving from one location to another.

Mode- a way of doing something.

Population- any group of organisms living in a specific area.

Primates- omnivorous mammals with highly developed brains, forward directed eyes, use of the hands, and complex, flexible behavior.

Self-awareness- recognition or consciousness of self.

Submissive- behavior that shows no resistance, surrendering.

Territory- a defined area or region.

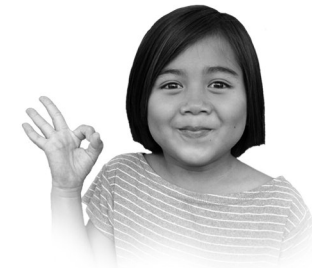
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