How Dogs Became Man's Best Friend:
Genetics & Domestication
NATURE Science Education Series

Vocabulary:
transformation, Mesolithic, niche, ecological, flight distance, genetic groups, proto-dog, carnassial teeth, molars, canines, scavenging, archaeological evidence, geneticist, temperament, tolerance, quantum leap, adrenalin, fight or flight, melanin, pigment, dopamine, noradrenalin, neurotransmitter, domino effect, accentuated, adversary

Pre-Viewing Discussion:
Why are dogs called "man's best friend"?

How do dogs differ from wolves? How are they similar to wolves?

Is it possible that dogs evolved from wolves? What makes you think so? (or, What makes you think they did not?)

Are there any human activities that would be impossible without the use of dogs?

Post-Viewing Discussion:
What behavior pattern does geneticist Ray Coppinger associate with wolves that evolved into dogs? Why name does he give to this behavior? What name is given to a similar behavior in human beings?

Why does Coppinger call the evolution of wolf to dog an "evolutionary leap"? What genetic experiment described in the program also indicated the concept of an evolutionary leap? In this experiment, how was the animal domesticated?

How was the wolf's anatomy changed as a result of the evolutionary process of wolf to dog?

How do sled dogs different from wolves in anatomy and temperament?

When do sheep dogs illustrate wolf-like behavior? What behavioral characteristics separate them from wolves?

Further Activities:
Investigate the behavioral and genetic characteristics of the so-called wolfdog.

Find out how selective breeding is used to create designer dogs.

Further investigate the characteristics of sled dogs or sheep dogs that make them invaluable to their human masters.

Survey the roles played by working dogs in a variety of cultures. Analyze the behavioral and physical characteristics that make them ideal for the jobs they perform.