



"The leaders in Canine Education"

HOW WELL DO DOGS SEE, HEAR AND SMELL?

SIGHT: For many years, it was believed that dogs saw their surroundings only in terms of black, white and gray; however, this truly is not the case. Dogs have more "rods" than "cones" on the retinas of their eyes. Rods are beneficial for black and white vision in hazy light, while cones are useful for color vision. Therefore, dogs see exceptionally well during dawn and dusk, which is typical of the majority of mammals. Subsequently, with only a small number of cones in their eyes, dogs see colors 'differently' than we do. For instance, green and yellow are basically the same for dogs and many other colors are seen in pastels.

The layer over the back of the dogs' eyes reflects light and enhances images. This layer is what makes their eyes shine when light hits them. The dog's eye is also a bit less sensitive to detail but more so to movement; this is why they may not be able to distinguish you at a distance if you are standing still, but once you move they recognize you immediately. The range of vision for a human is 180 degrees, giving us better distance vision while the typical range of vision for the dog is 250 degrees, enabling them to spot small movements over a wider area than us.

SOUND: Dogs hear low-pitched sounds about the same as we do but are far superior to us when it comes to high-pitched sounds. Humans have an upper range of 30,000 cycles per second which drops to about 12,000 as we age. The dog's upper range is 35,000 to 40,000 cycles per second with some research supporting up to 100,000. That is why some sounds are ultrasonic (undetectable) to us, while the dog has the ability to hear them. Our ancestors used their dogs to detect the presence and movements of small prey for hunting purposes which is directly related to why our dogs developed such sensitive hearing. The dog is capable of distinguishing familiar sounds, such as your footsteps or the sound of a particular car approaching, long before a human can. A wolf has been known to hear a howl from a distance of over four miles.

SMELL: Dogs are far superior to the human in their sense of smell. Some scents have no importance to the dog while their responsiveness to other substances, such as butyric acid (found in sweat), can be one million times greater than ours. Detecting sweat from human feet while distinguishing and tracking the scent for up to 100 miles is not uncommon for the dog. A dog's nose contains 220 million smell-sensitive cells compared to 5 million in humans. This fact definitely gives them the edge when tracking lost person, detecting drugs, searching for bombs, finding victims beneath snow or water and even being aware of tumors in the human body.

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