

Dog Sense-Ability

How your dog's five senses shape his world.

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HearingWhat your dog perceives as a noise starts out as sound waves "captured" by his ears, which he can swivel like radars. These sound waves are then conducted through the external ear canal to the tympanic membrane, where they produce vibrations. These vibrations are amplified in the middle ear and then mechanically conducted to the inner ear. A fluid-filled chamber that houses the cochlea, the neural apparatus of hearing in the inner ear (which also houses the balance apparatus) then conducts neural impulses to the auditory processing center of the brain.

The dog has adapted the ability to hear the sound frequencies critical to his survival in the wild. (An obvious exception are those store-bought dog whistles that bring your dog to attention but are inaudible to you.) Capable of perceiving sounds in the frequency range of 67 to 45,000 Hz. (vs. 20 to 23,000 Hz. in man), your dog can hear higher-pitched sounds than you can.

TouchThe central nervous system gathers information about your dog's environment through specialized nerve endings in his skin. The sensations that result are touch (via mechanoreceptors), pressure (mechanoreceptors), pain (nociceptors), and heat and cold (thermoreceptors). Your dog also perceives touch through tactile hairs, or whiskers. These modified hairs are thick, long, and generally located on his muzzle and around the eyes. Their roots are surrounded by sinuses that contain numerous nerve endings. When the tips of these hairs are touched perhaps when he makes contact with a food source or with a threat these nerve endings are stimulated and an alert is wired over to his brain.

Your dog, like you, depends upon his special senses to gather information about his world. But dogs and people ... we live worlds apart, due to the quirks of our respective senses. Still, we've capably merged our two very different perspectives, and in doing so have formed one of the greatest symbioses of the animal kingdom.