



The Five Senses

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Our bodies have five ways of gathering information from the physical world. Without these “information gathering systems,” we would be disconnected from everything around us and wouldn’t know whether it’s day or night, cold or hot, silent or noisy, safe or dangerous, because our bodies would not be communicating with our brains. Without new information, our brains would have only memories and questions, like What’s happening?! Where am I? Am I standing or lying down? Who’s there?

Fortunately, our five senses keep us constantly updated on our physical world. The following is basic information on each of the five senses:

Sight or **vision** is the ability of the eye and brain to detect light, color, and brightness. Two eyes provide depth perception, called *stereopsis*.

Hearing or **audition** is the ability of the ear to perceive vibrations traveling through air and matter, and to determine pitch (high or low), volume (loud or soft), and timbre or tone (like mellow or screechy). Sound felt as vibrations through the body is *tactition*.

Touch or the **somatosensory system** is a complex system of receptors covering our skin, muscles, bones, internal organs, and cardiovascular system to produce sensations of pressure, temperature, nociception (pain), and proprioception (body position).

Taste and **smell** are “chemical” senses that use receptor cells to detect molecules that fit into them like keys into locks. Taste plus smell is flavor.

Taste or **gustation** is the weakest of the senses. On the tongue and other areas of the mouth, chemical receptors or “taste buds” detect six basic tastes: salty, spicy and sour with one type of receptor, and sweet, bitter and umami or savory (the taste of protein-rich foods) with another type of receptor. The idea that certain parts of the tongue are dedicated to certain tastes has been proven incorrect.

Smell or **olfaction** is the most primitive sense. The other four senses use nerve relays (like electrical wiring) to transmit information to the brain, but when odor molecules enter the nostrils, they travel directly to the olfactory bulb in the brain and connect with smell receptors (like keys in locks). Smell can trigger memories and emotions even before an odor is identified. Humans can detect seven primary odors –

camphoric (like mothballs),
musky (like perfume or aftershave),
floral (like roses),
minty (like peppermint gum),

ethereal (like solvents),
pungent (like vinegar), and
putrid (like rotten eggs).