SENSATION & PERCEPTION

Sensation

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SENSATION & PERCEPTION (cont)

- the activation of receptors in the various sense organs.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SENSATION & PERCEPTION (cont)

* **Sensory Receptors** - specialized forms of neurons.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SENSATION & PERCEPTION (cont)

Sensory Thresholds

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SENSATION & PERCEPTION (cont)

1. Just noticeable difference (jnd or the difference threshold) - the smallest difference between two stimuli that is detectable 50 percent of the time.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SENSATION & PERCEPTION (cont)

2. Absolute threshold - the smallest amount of energy needed for a person to consciously detect a stimulus 50 percent of the time it is present.

Sense Organs:

- eyes
– ears
– nose
– skin
– taste buds

Examples of Absolute Threshold

Table 3.1
Examples of Absolute Thresholds

SENSE	THRESHOLD
Sight	A candle flame at 30 miles on a clear, dark night
Hearing	The tick of a watch 20 feet away in a quiet room
Smell	One drop of perfume diffused throughout a three-room apartment
Taste	1 teaspoon of sugar in 2 gallons of water
Touch	A bee's wing falling on the cheek from 1 centimeter above

Subliminal Sensation

Subliminal stimuli - stimuli that are below the level of

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

conscious awareness.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

– Just strong enough to activate the sensory receptors but not

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

strong enough for people to be consciously aware of them.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

– Limin - "threshold"

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

– Sublimin - "below the threshold."

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

– Supraliminal "above the threshold."

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

Subliminal perception – process by why subliminal

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

stimuli act upon the unconscious mind, influencing

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Subliminal Sensation (cont)

behavior

Habituation & Sensory Adaptation

Habituation - tendency of the brain to stop attending to constant, unchanging information.

Sensory adaptation - tendency of sensory receptor cells to become less responsive to a stimulus that is unchanging

Microsaccades - constant movement of the eyes, tiny little vibrations called that people do not notice consciously; prevents sensory adaptation to visual stimuli.

Psychological Aspects to Light

- Determined by the amplitude of the wave—how high or how low the wave actually is.

Brightness

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Psychological Aspects to Light (cont)

- is determined by the length of the wave.

Color or Hue

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Psychological Aspects to Light (cont)

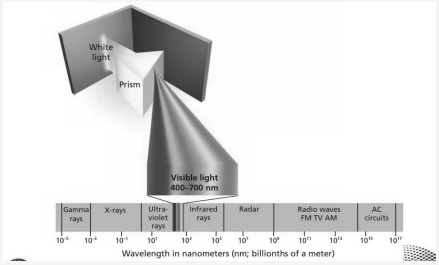
- refers to the purity of the color people see; mixing in black or gray would also lessen the saturation.

Saturation

The **higher the wave**, **the brighter the light** will be. **Low waves** are **dimmer**.

Long wavelengths are found at the **red end** of the **visible spectrum** (the portion of the whole spectrum of light that is visible to the human eye), whereas **shorter wavelengths** are found at the **blue end**

Figure 3.1 The Visible Spectrum



The wavelengths that people can see are only a small part of the whole electromagnetic spectrum.

Structure of the Eye

Cornea - clear membrane that covers the surface of the eye; protects the eye and is the structure that focuses most of the light coming into the eye

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

Radial kerototomy - vision-improving technique that uses this fact by making small incisions in the cornea to change the focus in the eye.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

Aqueous humor - next visual layer; clear, watery fluid that is continually replenished and supplies nourishment to the eye.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

Pupil	- hole through which light from the visual image enters the interior of the eye.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

Iris - round muscle (the colored part of the eye) in which the pupil is located; can change the size of the pupil, letting more or less light into the eye; helps focus the image.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

Lens - another clear structure behind the iris, suspended by muscles; finishes the focusing process begun by the cornea.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)	
Retina	- final stop for light in the eye.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

Contains 3 layers: **Ganglion cells**, **Bipolar cells**, and **Photoreceptors** that respond to various light waves

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

Rods - visual sensory receptors found at the back of the retina, responsible for noncolor sensitivity to low levels of light

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

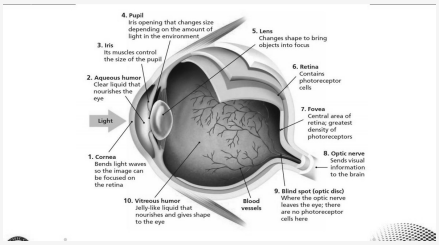
Cones - visual sensory receptors found at the back of the retina, responsible for color vision and sharpness of vision.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure of the Eye (cont)

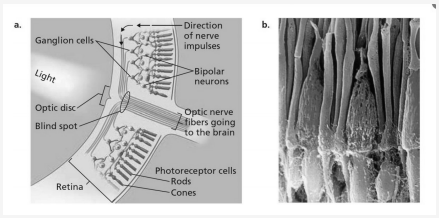
Blind Spot - area in the retina where the axons of the three layers of retinal cells exit the eye to form the optic nerve, insensitive to light.

Figure 3. 2 Structure of the Eye



Light enters the eye through the cornea and pupil. The iris controls the size of the pupil. From the pupil, light passes through the lens to the retina, where it is transformed into nerve impulses. The nerve impulses travel to the brain along the optic nerve.

Figure 3.3 The Parts Of the Retina



(a) Light passes through ganglion and bipolar cells until it reaches and stimulates the rods and cones. Nerve impulses from the rods and cones travel along a nerve pathway to the brain. (b) On the right of the figure is a photomicrograph of the long, thin rods and the shorter, thicker cones; the rods outnumber the cones by a ratio of about 20 to 1.

Figure 3.4 Crossing of the Optic Nerve

The optic nerve tissue from both eyes joins together to form the left optic tract before going on to the left occipital lobe. For the left visual field (shown in blue), the messages from both right sides of the retinas will travel along the right optic tract to the right visual cortex in the same manner.

How the eyes work

- the recovery of the eye's sensitivity to visual stimuli in darkness after exposure to bright lights.

Dark adaptation

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

- the recovery of the eye's sensitivity to visual stimuli in light after exposure to darkness.

Light Adaptation

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

- theory of color vision that proposes three types of cones: red, blue, and green.

Trichromatic theory

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

- images that occur when a visual sensation persists for a brief time even after the original stimulus is removed.

Afterimages

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

- theory of color vision that proposes four primary colors with cones arranged in pairs: red and green, blue and yellow.

Opponent-process Theory Lateral geniculate nucleus (LGN) of thalamus

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

- either have no cones or have cones that are not working at all

Monochrome colorblindness

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

- either the red or the green cones are not working.

Red-green Colorblindness

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

– lack of functioning red cones.

Protanopia

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

- lack of functioning green cones.

Deuteranopia

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

How the eyes work (cont)

- lack of functioning blue cones.

Tritanopia

COLOR BLINDNESS IS SOMETIMES DUE TO SEX-LINKED INHERITANCE

SOUND

• **Wavelength** – interpreted as frequency or pitch (high,

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOUND (cont)

medium, or low).

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOUND (cont)

• **Amplitude** – interpreted as volume (how soft or loud a

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOUND (cont)

sound is).

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOUND (cont)

• **Purity** – interpreted as timbre (a richness in the tone

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOUND (cont)

of the sound).

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOUND (cont)

• **hertz** (Hz) - cycles or waves per second, a

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOUND (cont)

measurement of frequency.

A decibel is a unit of measure for loudness.

Structure Of the Ear

- short tunnel that runs from the pinna to the eardrum (tympanic membrane)

Auditory Canal

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure Of the Ear (cont)

- thin section of skin that tightly covers the opening into the middle part of the ear, just like a drum skin covers the opening in a drum.

Eardrum

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure Of the Ear (cont)

- When sound waves hit the eardrum, it vibrates and causes three tiny bones in the middle ear to vibrate.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure Of the Ear (cont)

• Hammer • Anvil • Stirrup

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure Of the Ear (cont)

- snail-shaped structure of the inner ear that is filled with fluid

Cochlea

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure Of the Ear (cont)

- rests in the basilar membrane; contains receptor cells for sense of hearing.

Organ of Corti

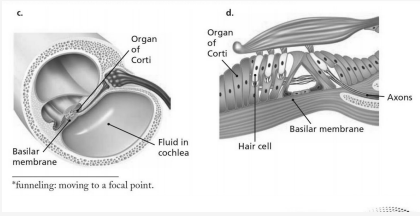
Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Structure Of the Ear (cont)

- bundle of axons from the hair cells in the inner ear; receives neural message from the organ of Corti.

Auditory Nerve

Figure 3.8 (continued)



(c) The inner ear. Large spaces are filled with fluid (shown in purple) that vibrates as the oval window vibrates. (d) A close-up view of the basilar membrane (in dark pink) with the hair cells of the organ of Corti (in lighter pink). Notice the axons (small green lines) leaving the hair cells to form the auditory nerve.

Theories Of Pitch

- psychological experience of sound that corresponds to the frequency of the sound waves; higher frequencies are perceived as higher pitches.

Pitch

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Theories Of Pitch (cont)

- theory of pitch that states that different pitches are experienced by the stimulation of hair cells in different locations on the organ of Corti.

Place Theory

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Theories Of Pitch (cont)

- theory of pitch that states that pitch is related to the speed of vibrations in the basilar membrane volley principle theory of pitch that states that frequencies above 100 Hz cause the hair cells (auditory neurons) to fire in a volley pattern, or take turns in firing.

Frequency Theory

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Theories Of Pitch (cont)

- theory of pitch that states that frequencies above 100 Hz cause the hair cells (auditory neurons) to fire in a volley pattern, or take turns in firing.

Volley Principle

TYPES OF HEARING IMPAIRMENTS

Conduction hearing impairment - damaged eardrum (which would prevent sound waves from being carried into the middle ear properly), or

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TYPES OF HEARING IMPAIRMENTS (cont)

- damage to the bones of the middle ear (sounds cannot be conducted from the eardrum to the cochlea).

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TYPES OF HEARING IMPAIRMENTS (cont)

Nerve hearing impairment	- damage in the inner ear, or

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TYPES OF HEARING IMPAIRMENTS (cont)

- damage in the auditory pathways and cortical areas of the brain.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TYPES OF HEARING IMPAIRMENTS (cont)

Surgery to help restore hearing	- Cochlear Implant

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TYPES OF HEARING IMPAIRMENTS (cont)

- a microphone implanted just behind the ear picks up sound from the surrounding environment.

(a) In a cochlear implant, a microphone implanted just behind the ear picks up sound from the surrounding environment. A speech processor, attached to the implant and worn outside the body, selects and arranges the sound picked up by the microphone. The implant itself is a transmitter and receiver, converting the signals from the speech processor into electrical impulses that are collected by the electrode array in the cochlea and then sent to the brain.

TASTE

• **Five Basic Tastes:**

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

– Sweet

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

– Sour

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

– Salty

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

– Bitter

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

– "Brothy"

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

- **Taste buds**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

– Taste receptor cells in mouth; responsible for sense of taste

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

- **Gustation**

By **Lem**
cheatography.com/lem/

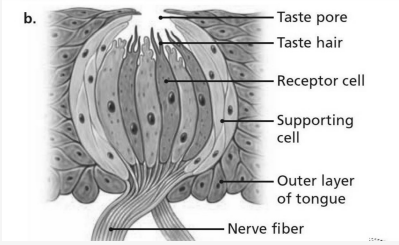
Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

TASTE (cont)

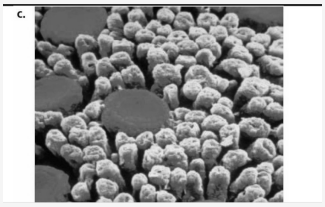
– The sensation of a taste.

Figure 3.10 The tounge & Taste buds



(b) The taste bud is located inside the papillae and is composed of small cells that send signals to the brain when stimulated by molecules of food.

Figure 3.10 (continued)



(c) Microphotograph of the surface of the tongue, showing two different sizes of papillae. The taste buds are located under the surface of the larger red papillae, whereas the smaller and more numerous papillae form a touch-sensitive rough surface that helps in chewing and moving food around the mouth.

SMELL

– Sense of smell.

Olfaction (olfactory sense)

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SMELL (cont)

- Areas of the brain located just above the sinus cavity and just below the frontal lobes that receive information from the olfactory receptor cells

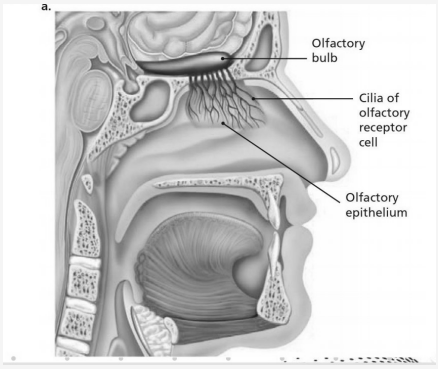
Olfactory Bulbs

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SMELL (cont)

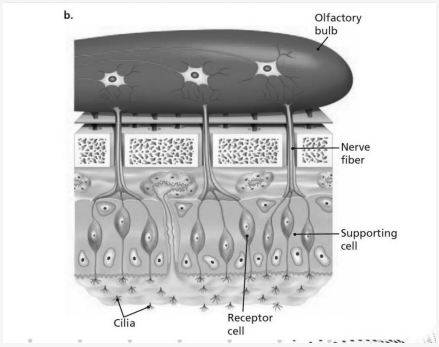
At least 1,000 olfactory receptors.

Figure 3.11 The Olfactory Receptors



a) A cross section of the nose and mouth. This drawing shows the nerve fibers inside the nasal cavity that carry information about smell directly to the olfactory bulb just under the frontal lobe of the brain (shown in green).

Figure 3.11 (continued)



(b) A diagram of the cells in the nose that process smell. The olfactory bulb is on top. Notice the cilia, tiny hairlike cells that project into the nasal cavity. These are the receptors for the sense of smell.

SOMESTHETIC SENSES

- the body senses consisting of the skin senses, the kinesthetic sense, and the vestibular senses.

Somesthetic Senses

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOMESTHETIC SENSES (cont)

- Means "body"

Soma

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOMESTHETIC SENSES (cont)

– feeling

Esthetic

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOMESTHETIC SENSES (cont)

- the sensations of touch, pressure, temperature, and pain.

Skin senses

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOMESTHETIC SENSES (cont)

- pain signals must pass through a "gate" located in the spinal cord.

Gate-control theory

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOMESTHETIC SENSES (cont)

- sense of the location of body parts in relation to the ground and each other.

Kinesthetic sense

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOMESTHETIC SENSES (cont)

– Proprioceptive receptors (proprioceptors)

By Lem
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by CrosswordCheats.com
Learn to solve cryptic crosswords!
http://crosswordcheats.com

SOMESTHETIC SENSES (cont)

- the sensations of movement, balance, and body position sensory conflict theory an explanation of motion sickness in which the information from the eyes conflicts with the information from the vestibular senses, resulting in dizziness, nausea, and other physical discomforts.

Vestibular senses

When people grasp two braided pipes–one with cold water running through it, the other with warm water–the sensation is "very hot" and painful.

Perception & Constancies

• **Perception**

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

– The method by which the sensations experienced at any given moment are interpreted and organized in some meaningful fashion.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

- **Size constancy**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

– The tendency to interpret an object as always being the same actual size, regardless of its distance.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

- **Shape constancy**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

– The tendency to interpret the shape of an object as being constant, even when its shape changes on the retina.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

- **Brightness constancy**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

– The tendency to perceive the apparent brightness of an object as the same even when the light conditions change.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

- **Size constancy**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perception & Constancies (cont)

- The tendency to interpret the size of an object as being constant, even when its shape changes on the retina.

Gestalt Principles

• **Figure–ground**

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

– The tendency to perceive objects, or figures, as existing on a background.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

- **Reversible figures**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

– Visual illusions in which the figure and ground can be reversed.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

- **Similarity**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

– The tendency to perceive things that look similar to each other as being part of the same group.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

- **Proximity**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

– The tendency to perceive objects that are close to each other as part of the same grouping.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

- **Closure**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

– The tendency to complete figures that are incomplete.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

- **Continuity**

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

– The tendency to perceive things as simply as possible with a continuous pattern rather than with a complex, broken-up pattern.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

- **Contiguity**

By **Lem**
cheatography.com/lem/

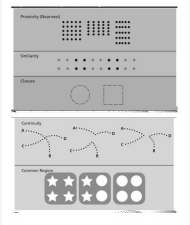
Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Gestalt Principles (cont)

– The tendency to perceive two things that happen close together in time as being related.

Figure 3.16 Gestalt principles of grouping



Development Of Perception

• **Depth perception** - the ability to perceive the world in three dimensions.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

- **Studies of depth perception** – Visual cliff experiment.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

• **Monocular cues (pictorial depth cues)** – cues for perceiving depth based on one eye only.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

– **Linear perspective** – the tendency for parallel lines to appear to converge on each other.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.
Page 100 of 100.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

– **Relative size** - perception that occurs when objects that a person expects to be of a certain size appear to be small and are, therefore, assumed to be much farther away.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.
Page 101 of 100.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

– **Interposition (overlap)** - the assumption that an object that appears to be blocking part of another object is in front of the second object and closer to the viewer.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.
Page 102 of 100.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

• **Aerial perspective** - the haziness that surrounds objects that are farther away from the viewer, causing the distance to be perceived as greater.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

• **Texture gradient** - the tendency for textured surfaces to appear to become smaller and finer as distance from the viewer increases.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

• **Motion parallax** - the perception of motion of objects in which close objects appear to move more quickly than objects that are farther away.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

• **Accommodation** - as a monocular clue, the brain's use of information about the changing thickness of the lens of the eye in response to looking at objects that are close or far away.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

• **Binocular cues** - cues for perceiving depth based on both eyes.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

– ***Convergence*** - the rotation of the two eyes in their sockets to focus on a single object, resulting in greater convergence for closer objects and lesser convergence if objects are distant.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Development Of Perception (cont)

– **Binocular disparity** - the difference in images between the two eyes, which is greater for objects that are close and smaller for distant objects.

Perceptual Illusions

The Herman grid	– is possibly due to the response of the primary visual cortex.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)

Müller-Lyer illusion	- illusion of line length that is distorted by inward-turning or outward-turning corners on the ends of the lines, causing lines of equal length to appear to be different.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)

Moon illusion	– the moon on the horizon appears to be larger than the moon in the sky.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)

- Apparent distance hypothesis

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)	
Autokinetic Effect	- a small, stationary light in a darkened room will appear to move or drift because there are no surrounding cues to indicate that the light is not moving.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)

stroboscopic motion - seen in motion pictures, in which a rapid series of still pictures will appear to be in motion.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)

phi phenomenon	- lights turned on in a sequence appear to move.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.
Page 115 of 100.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)

Rotating Snakes	– is due in part to eye movements.

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)

The Enigma	- are due in part to microsaccades

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Perceptual Illusions (cont)

- Ame's room illusion

Factors that Influence Perception

- the tendency to perceive things a certain way because previous experiences or expectations influence those perceptions.

Perceptual set (perceptual expectancy)

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Factors that Influence Perception (cont)

- the use of preexisting knowledge to organize individual features into a unified whole.

Top-down processing

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Factors that Influence Perception (cont)

- the analysis of the smaller features to build up to a complete perception.

Bottom-up processing

By **Lem**
cheatography.com/lem/

Not published yet.
Last updated 17th January, 2023.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com

Figure 3.8 structure of the ear

(a) This drawing shows the entire ear, beginning with the outer ear (pinna, ear canal, and eardrum). The vestibular organ includes the semicircular canals and the otolith organs (inside the round structures just above the cochlea). (b) The middle ear. Sound waves entering through the ear canal cause the eardrum to vibrate, which causes each of the three bones of the middle ear to vibrate, amplifying the sound.

Sponsored by **CrosswordCheats.com**
Learn to solve cryptic crosswords!
http://crosswordcheats.com