



All About Me - My Senses

Fact Sheet for Adults



General Facts

- The nervous system has a different organ for each of our senses. Each organ has sensory cells that collect information and then send signals to the brain, where they are received and interpreted.
- The five senses are sight, taste, smell, touch and hearing.

The Five Senses

Sight

- Our sense of sight uses our eyes.
- We use the lens at the front of our eyeball to focus images on the retina at the back of the eye.
- The iris (the coloured part of the eye) changes the size of the pupil (the black opening) to control the amount of light that enters the eye. It is smaller in bright light and larger in low light. The pupil also increases in size when we see something we like or feel scared of.
- The optic nerve takes signals from the retina to the brain. When the image arrives at the brain, it is actually upside down. Your brain then interprets this image to make sense of what is seen.
- The visual area of the brain is right at the back of your brain.

Hearing

- The body uses our ears to hear with.
- There are three parts to the human ear: the outer ear, the middle ear and the inner ear.
- The outer ear is called the pinna or auricle and is the part of the ear you can see. The main role of this part of the ear is to channel the sound waves into the middle ear.
- The sound waves then travel down the ear canal to the middle ear.
- In the middle ear, the sound waves are turned into vibrations using the eardrum. The eardrum is a thin piece of skin which is stretched tight like a drum. As the sound waves hit the eardrum, they make it vibrate.
- On the other side of the eardrum are three small bones called the malleus, incus and stapes. The vibrations from the eardrum move these bones, sending the vibrations further along into the inner ear.
- When these vibrations reach the inner ear they enter the cochlea. This is a small, spiral-shaped tube which is filled with liquid. The vibrations make this liquid move, which in turn moves the tiny hairs that line the cochlea. The movement of these hairs creates nerve signals which are then interpreted by the brain.

Taste

- Taste buds are the sensory organs on the tongue that detect the chemicals that give flavours to food. It is the tiny hairs within the taste buds (microvilli) that send the signals to the brain.
- The taste buds on your tongue detect 5 different tastes: sweet, sour, bitter, salty and umami (savoury).
- There are 10,000 taste buds on your tongue which contain the taste receptors. However, as a person gets older, all of these taste buds may not be replaced, meaning that an older person may only have 5,000 working taste buds.
- The nose also helps with our sense of taste, as the olfactory receptors within the nose detect chemicals that are released from food. They then send additional information to the brain about the food that is being eaten.



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Smell

- Inside your nose is the olfactory epithelium, which contains more than 10 million sensory receptors. These receptors are connected to the olfactory nerve, which sends the signals to the brain, which is then able to distinguish between at least 10,000 different smells.
- Scent cells are renewed every 30 to 60 days.

Touch

- The skin is your largest organ, covering the whole surface of your body. The body uses the skin to collect information and so the sense of touch is spread through the whole body.
- Some parts of the body are more sensitive than others, as they have a greater concentration of nerve endings. The lips, toes and fingertips are more sensitive, for example, than the back, which has much fewer nerve endings.
- The skin identifies four types of touch sensations: cold, heat, contact and pain.

Fun Facts

- More people have brown eyes than blue.
- Scientists believe that animal eyes evolved around 500 million years ago.
- The average blink lasts for about 1/10th of a second.
- Your eye is the fastest muscle in the body.
- You blink more when you talk.
- The smallest bones in the body are in the middle ear: the incus, the malleus and the stapes.
- Your ears never stop hearing, even when you are asleep.
- The average person has about 10,000 taste buds and they are replaced every 2 weeks.
- Our tongue is one of the strongest muscles in the human body.
- Butterflies and flies have taste buds in their mouths and on their feet.
- Women generally have a better sense of smell than men.