



Biology

Science Y1: Ourselves and our senses

Links to prior learning:

All about me (Reception)

Light (Y1)

Next steps:

Growth (Y2)

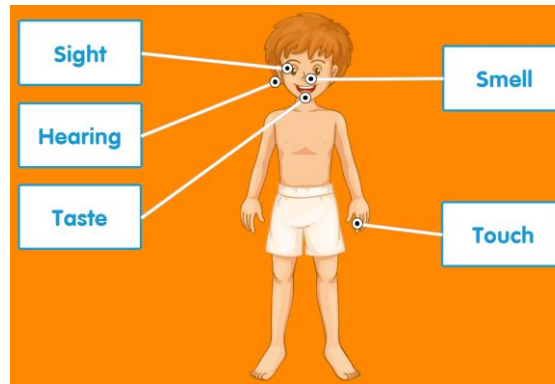
Humans have **five senses** – taste, hearing, smell, sight and touch – that they use to help them to find out about the world around them. Four of these senses are associated with particular parts of the body: **taste** – tongue and mouth; **hearing** – ears; **smell** – nose; **sight** – eyes, while the sense of **touch** is located all over the body, the skin being one large sensory organ.

Sight

Our sense of sight is what we use to see. In order to do this we need light. Light enters the eye through the pupil at the centre of the eye. When light is dim the pupil enlarges to allow in more light. When light is bright the pupil reduces in diameter to restrict light entering and avoid damaging the eye. The light passes through the pupil and falls on the retina at the back of the eye, where information about the image viewed is sent on to the brain. The brain uses this information to build a picture of the image.

Hearing

We hear using our ears. Sounds are made when something vibrates, for example, the skin of a drum vibrates and makes a sound when it is struck with a drumstick. The ear collects vibrations from sound waves and they travel along a tube called an ear canal to the eardrum. The vibrations are then passed to the cochlea – a fluid-filled coiled tube that looks rather like a snail shell. Liquid inside the cochlea moves tiny hairs in response to the vibrations and these send messages through the nervous system to the brain. The brain interprets the messages and identifies the sound and the direction from where it comes.



Smell

The nose is used to smell smells, but the sense of taste helps with this too. Inside the nose is the 'olfactory epithelium', which is made up of around 10 million scent receptors. These receptors can distinguish up to 10,000 different smells. Tiny odour molecules are drawn into the nose and trigger the scent receptors to send messages to the brain about the smells. Smells often trigger memories, a place, an event or a particular person and can be strongly associated with likes or dislikes – which vary in any given group.

Taste

The tongue and the roof of the mouth are covered with around 10,000 tiny taste buds, which allow us to taste food. When food enters the mouth, saliva is produced to help to start to break down the food. This causes the receptor cells located in the taste buds to send messages through sensory nerves to the brain. Taste buds recognize four basic kinds of taste: sweet, salty, sour and bitter. The salty/sweet taste buds are located near the front of the tongue, the sour taste buds line the sides of the tongue and the bitter taste buds are found at the very back of the tongue.

Touch

While the senses of taste, hearing, smell, and sight are located in specific parts of the body, the sense of touch is found all over the body. This is because the sense of touch originates in the bottom layer of skin called the dermis. The dermis has many tiny nerve endings that provide information about the things with which the body comes into contact. They do this by passing information through to the spinal cord, which sends messages to the brain, where feeling is registered. The human body has about twenty different types of nerve endings that all send messages to the brain. The most common receptors are heat, cold, pain, and pressure or touch receptors.

Links to other subjects:

Homes (learning theme) - Animals and their habitats; Endangered species