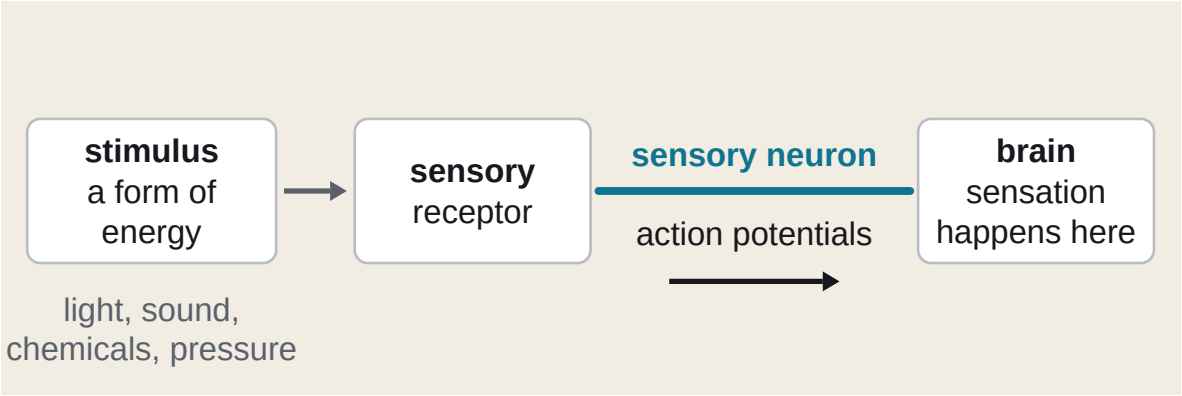
A7 · Sensing the world: receptors, taste, smell, skin and body position · Notes

Goals: Say what a sensory receptor does and where a sensation happens. Name the four kinds of sensory receptor and their stimuli. Explain sensory adaptation. Describe how taste receptors and olfactory cells work. Name the receptors in the skin, and say what proprioceptors do.

Name: _____ Date: _____

Slide 1 of 5 · From stimulus to sensation

In lesson A6, the lobes of the cerebrum received information from the senses. Today you see where that information starts.



Key ideas

A _____ detects one kind of stimulus.

It changes the energy of the stimulus into _____.

A sensory neuron carries them to the _____.

The feeling is a _____. It happens in the brain.

Example

State where the sensation of warmth happens: in the skin or in the brain.

Try it

State what a sensory receptor changes a stimulus into.

Slide 2 of 5 · Four kinds of sensory receptor

On the last slide, each sensory receptor detected one kind of stimulus. Receptors are named for the stimulus they detect.

Receptor	Stimulus	Where
photoreceptor	light	rods and cones in the eye
chemoreceptor	chemicals	taste and smell
mechanoreceptor	pressure or movement	touch, hearing, balance
thermoreceptor	heat or cold	skin

Key ideas

A _____ detects light.

A _____ detects chemicals.

A _____ detects pressure or movement.

A _____ detects heat or cold.

Example

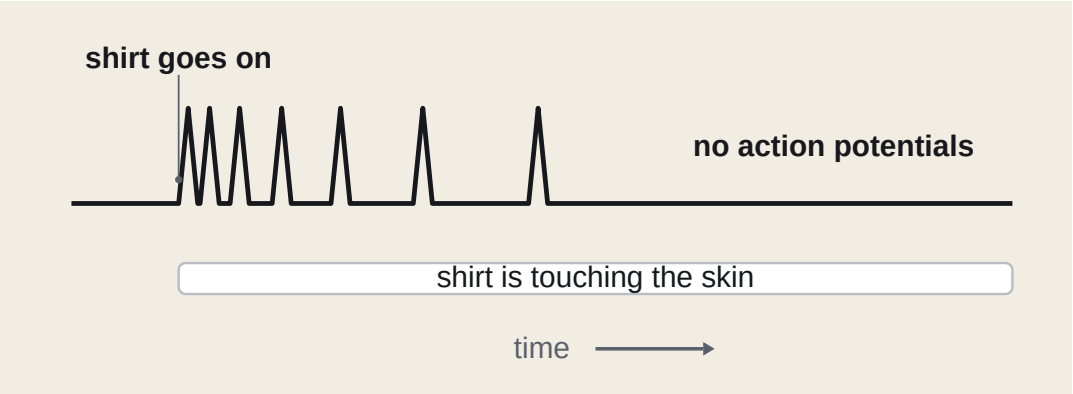
Name the kind of receptor that detects the smell of smoke.

Try it

Name the kind of receptor that detects pressure on the skin.

Slide 3 of 5 · Sensory adaptation

On the last slide, receptors detected light, chemicals, movement and temperature. A receptor does not keep reporting a stimulus that stays the same.



Key ideas

A receptor becomes used to a stimulus that does not _____.

The sensory neuron stops _____.

This is _____.

Example

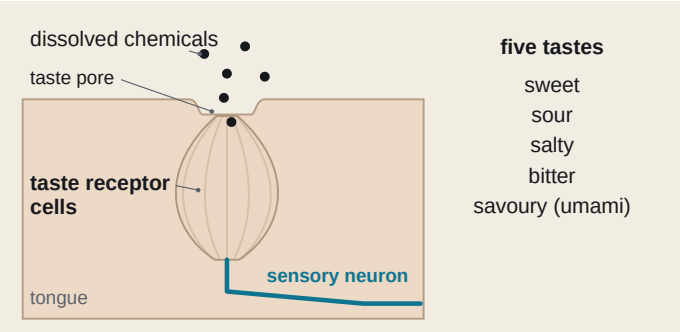
You stop noticing a smell after a few minutes in a room. Name the effect and explain it.

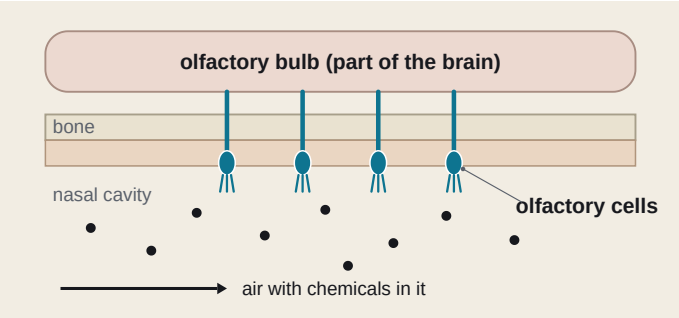
Try it

Explain why you stop feeling your shirt a minute after you put it on.

Slide 4 of 5 · Taste and smell

On the last slide, receptors adapted to a stimulus that stayed the same. Now you look at two senses that use chemoreceptors.





Key ideas

Taste receptors are grouped in _____ on the tongue.

They detect chemicals _____ in saliva.

Smell receptors are called _____.

They detect chemicals carried in the _____.

Example

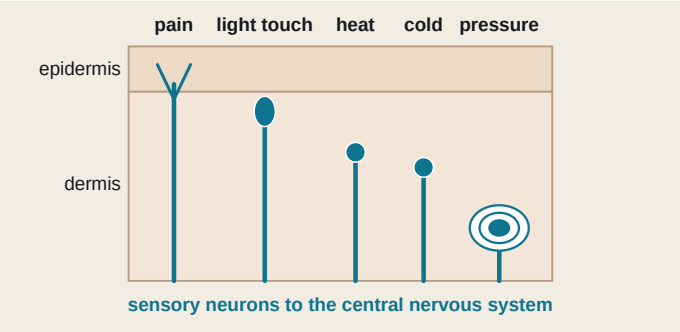
Compare what taste detects with what smell detects.

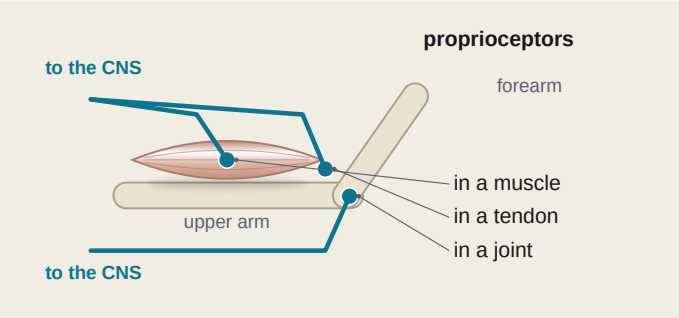
Try it

List the five main tastes.

Slide 5 of 5 · Skin receptors and body position

On the last slide, chemoreceptors gave you taste and smell. Your skin and your muscles hold other receptors.





Key ideas

The skin has receptors for light touch, pressure, heat, cold and _____.

_____ are in muscles, tendons and _____.

They tell the brain the _____ of each part of the body.

Example

State where proprioceptors are found.

Try it

Explain why pain receptors are useful.