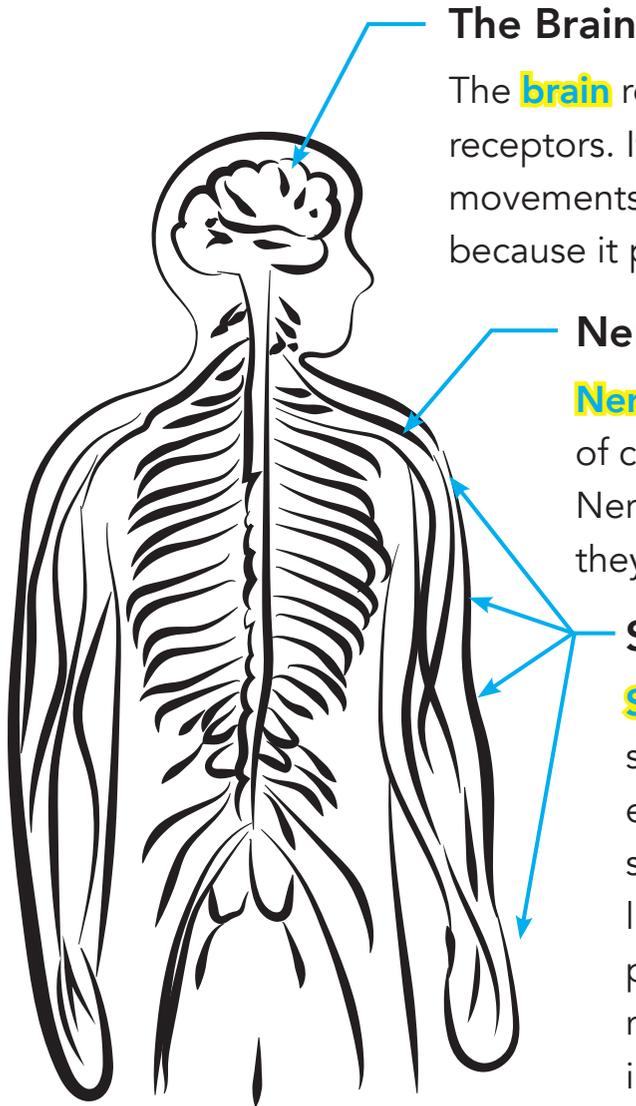




The nervous system gives us senses and memory

Sense receptors, nerves, and the brain make up the **nervous system**.



The Brain

The **brain** receives signals from your sense receptors. It also thinks and controls your movements. The brain is like a computer because it processes signals and information.

Nerves

Nerves inside our body are made up of cells that carry signals to the brain. Nerves are similar to wires because they transmit signals.

Sense receptors

Sense receptors are cells that can sense specific things about the environment around you. Different sense receptor cells can sense light, temperature, smell, sound, pain, touch, taste and more. Sense receptor cells are located anywhere in the body that we sense things.





I use six fingers to read

When I was a child I didn't want to touch things because it was scary for me. Getting a blind person to touch things is hard because they cannot see what they are touching. I started learning Braille in preschool and could read by the time I was in first grade. When I read, I use the middle three fingers on each of my hands. I feel different letters with six of my fingers at the same time. Sensing different letters with different fingers helps me read as fast as a sighted person.



The middle three fingers on each hand are used to read Braille.



Why do you think Karen was scared to touch new things when she was a child?



A Braille node lets me read computer screens

Now that I am attending a university, I have learned to use a Braille node to read computer screens and even to do computer programming! I use my Braille node as a computer monitor and keyboard. People who can see must look at a computer screen to read the words. My Braille node flashes patterns of dots that my fingers can feel—I see the screen with my fingers.

I type Braille letter patterns using six keys like these:



For example, the blue highlighted keys form the letter d:



I have a few Braille nodes. This is a small one I use for traveling. I also have a really long one that I use for coding. It lets me feel lots of letters at the same time.

Nerves carry signals to and from the brain

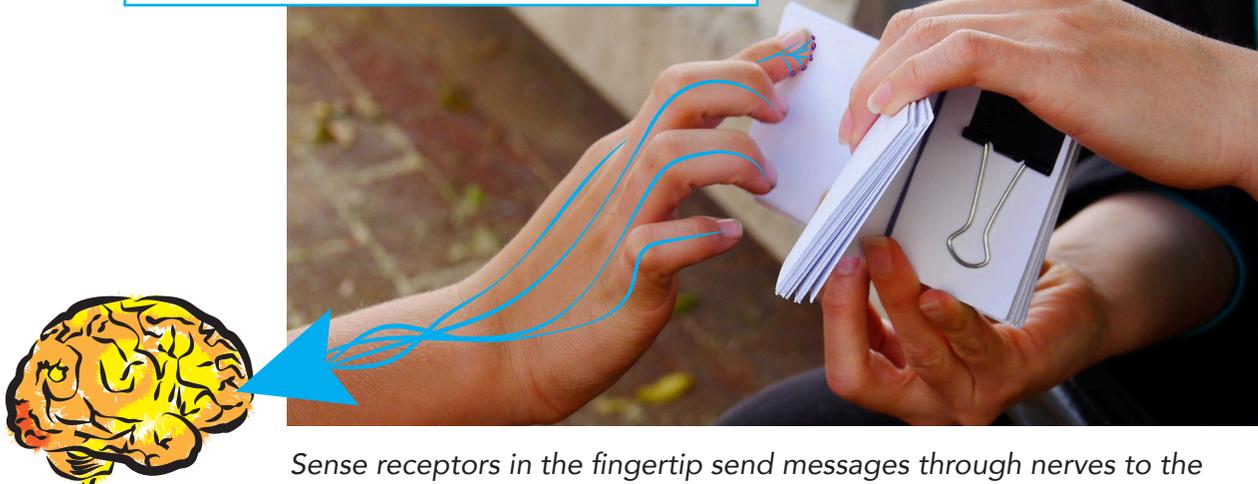
When I read Braille, my brain, nerves and sense receptors work together to help me sense the dot patterns that I am reading. Sense receptors that sense touch are called touch receptors. Touch receptors in my finger send signals to my brain when they touch something. The signal is sent through my nerves. When the signal is received, my brain processes the information and I feel what I touch.

Key:


Sense
receptors


Nerves


The brain



Sense receptors in the fingertip send messages through nerves to the brain.

How do sense receptors, nerves, and the brain work together to help us sense?



Many touch receptors work together to sense

Many touch receptors are located on the tip of each finger. When one is stimulated by a touch, it sends a signal to the brain. The brain knows where each touch receptor is located on the finger. Using the location of activated receptors, the brain identifies Braille patterns as I run my fingers across the raised dots. My brain paints a dot picture in my mind.

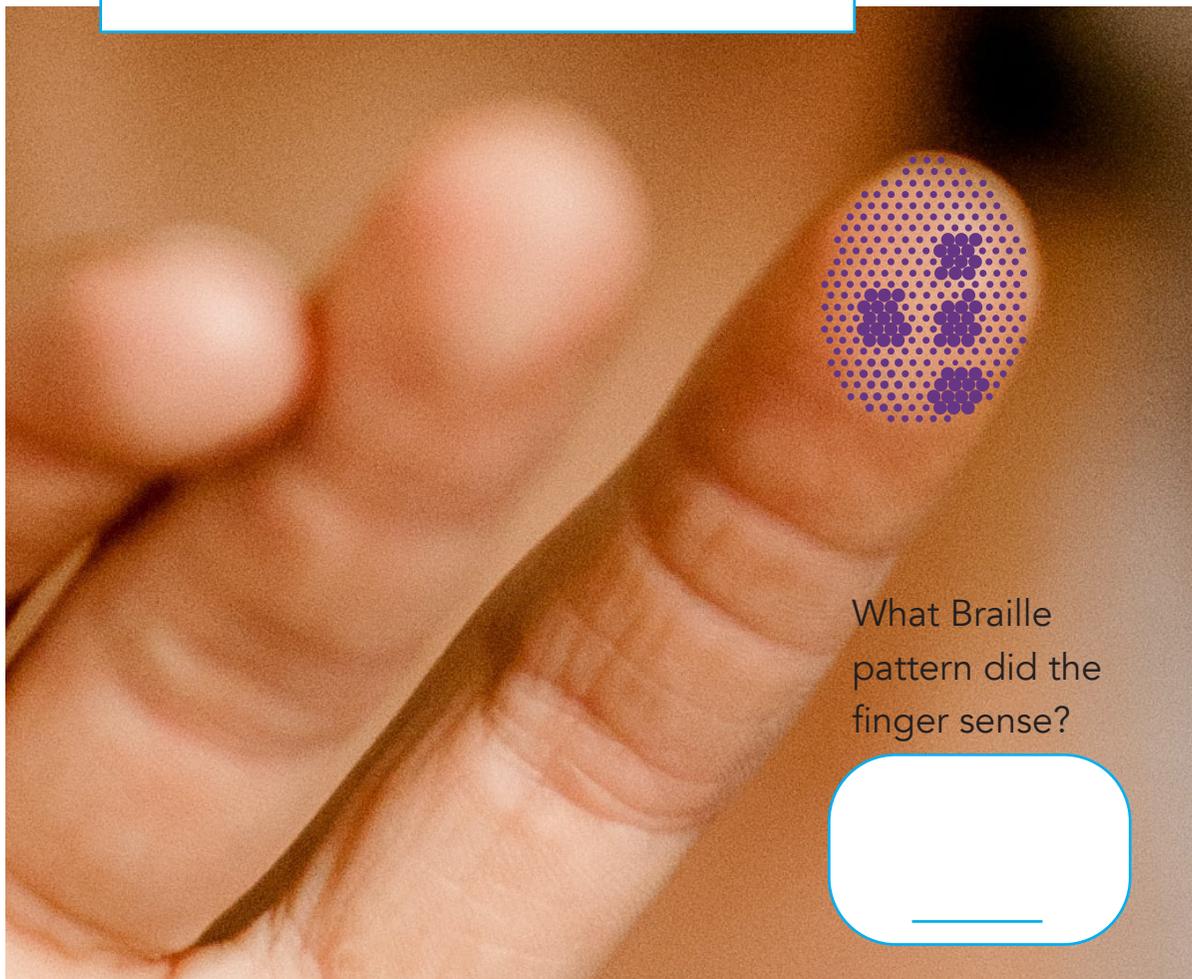
Key:



Touch receptors waiting to be stimulated



Touch receptors stimulated by touch



What do the large and small purple dots represent in the diagram? How do touch receptors work together to make a dot picture?

