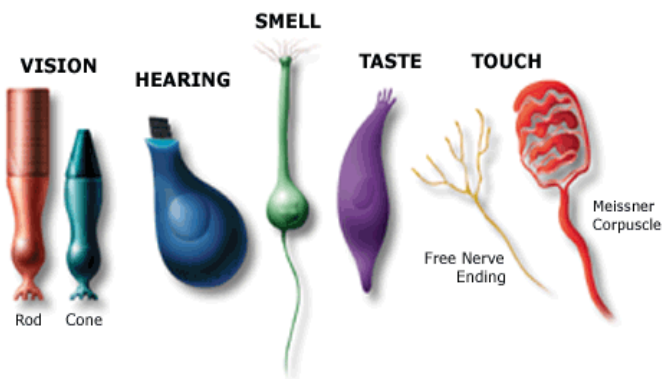




Nerve Anatomy

There are **THREE** main kinds of **NERVE CELLS**. Each has a different job.

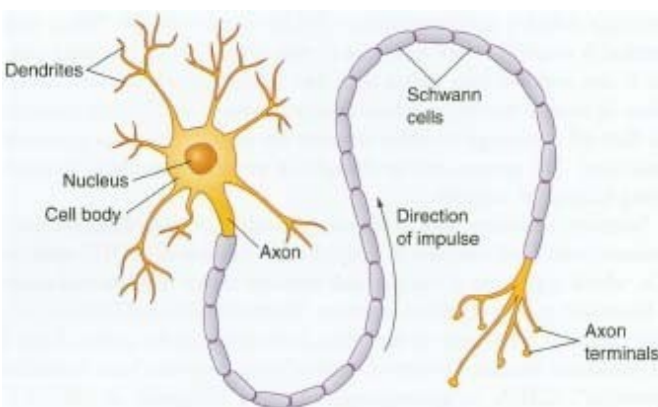


1. **Sensory Nerve Cells** send signals with information about what's happening in our organs (like the heart, lungs, or skin) or our environment (stuff going on around you) towards the spinal cord and brain.

2. **Integration Nerve Cells** are in the spinal cord and brain between sensory nerve cells and motor nerve cells. This is like the little mail person in your nerves, passing message from one

mailbox to another.

3. **Motor Nerve Cells** send signals away from the brain and spinal cord. The signals it carries tells muscles or organs to do something like jump, or pump blood in your heart, or bring air into your lungs.

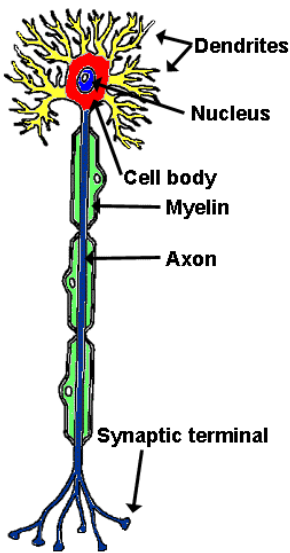


The **CELL BODY** is the cell's control center. This is like the Post Master General (that's they guy in charge of the mail). **Dendrites** pick up signals coming into the cell. This is like the mail carrier delivering mail. **Axons** carry nerve impulses down the cell. This is like getting a package in the mail. A **Myelin Sheath** (the grey stuff covering the long tube or axon) wraps around the nerve axon. This insulation speeds up

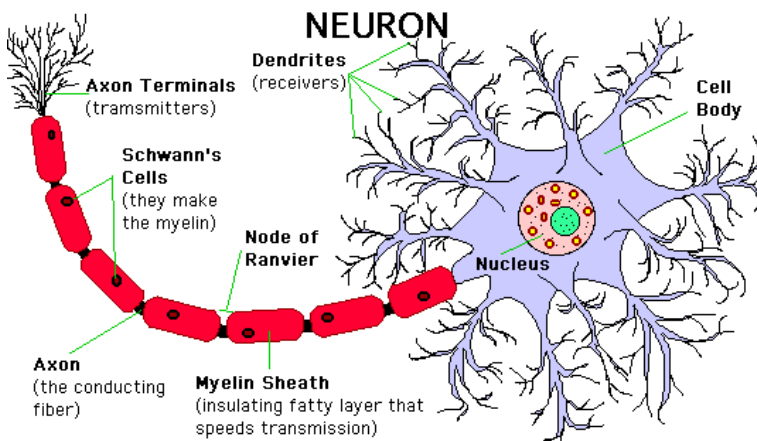
the nerve impulse. This like the bubble wrap that protects the stuff in your box. When we get older, we loose myelin around our axons if we don't exercise our brain.



Nerve Anatomy



Nerves are made of bundles of nerve cell axons. The **Nerve Impulse** is wave of electricity. The wave travels down the whole axon like a surfer riding a wave. It opens more holes in the axon wall. **Ions** carry electricity all along the axon like a telephone wire. At the end of the axon, the impulse changes. The electrical wave opens little packets that hold chemical nerve messengers like new waves opening up in the ocean of nerves so you can keep surfing. The new packets (or new waves) pop open into a gap between cells called a **Synapse**. Check out the synaptic terminal in the picture on the left. The chemical messengers (or little surfers) jump across the synapse and stick to the cell wall on the other side. Basically, they hop from wave to wave or nerve cell to nerve cell. Tiny holes open in the next cell wall. Ions move in and the impulse starts over again. Surfs up!



We have **NERVE GLUE** in our brain! Nerves called **Neuroglia** help hold other nerve cells together. There are 10 times as many nerve glue cells in your brain as there are thinking nerve cells.

Our body is full of electricity. Our **Nerve Cells** carry electricity. They can instantly send messages like instant messenger to the other cells in our body. Our nerve

cells are sending and getting thousands of messages from other cells right now!