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The objective of this assignment is to become familiar with the various types of definitions used in technical writing and to realize what situation each type is best suited for. The criteria for this assignment dictates that we create a parenthetical, sentence and expanded definition (using four expansion strategies) for a relatively complex word that is relevant to our field of study. My definitions are targeted towards graduating high school students who are hoping to pursue a university degree in the biological sciences.

Parenthetical Definition:

Chemical and electrical signals are passed from one neuron to another through the synapse (the junction of two neurons).

Sentence Definition:

The synapse is the overall area where two neurons come within a close distance of each other. This is where physiological signals are transferred from neuron to neuron.

Expanded Definitions:

What is a synapse?

A synapse is the structure that permits the transmission of chemical and electrical signals between neurons.

What is the synapse used for?

The synapse is used for communication. It allows the transmission of signals to target areas so we can use proprioception and feel pain/temperature.

What are the components of a synapse?

The synapse is composed of an axon terminal of one neuron, the synaptic cleft (space between neurons) and the dendrites of another neuron.

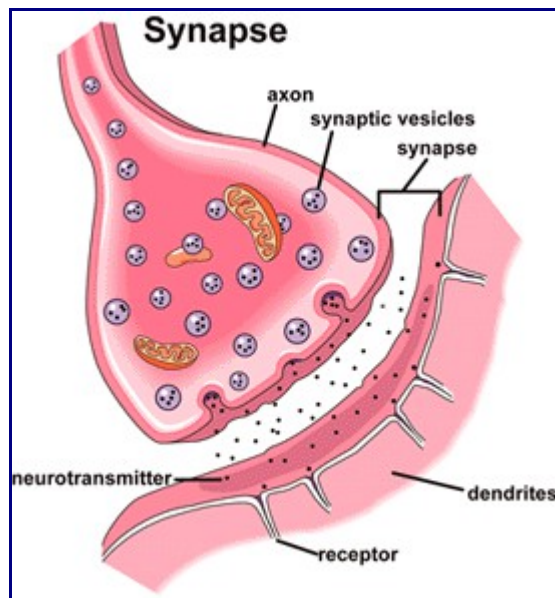


Figure 1. The components of a synapse

How does a synapse work?

The electrical/chemical signal travels down the neuron and reaches the axon terminal. This causes a depolarization of the axon terminal which then causes the neurotransmitters in the axon terminal to release their contents into the synaptic cleft. The contents of the neurotransmitters travel through the cleft and bind to receptors on the next neurons dendrites. This causes depolarization of the next neuron and continuation of the original electrical/chemical signal.

Where are synapses located?

Synapses are located at the end/beginning of nerve cells in the central nervous system (brain and spinal cord) and the peripheral nervous system (body).

Works Cited

1. Synapse. (n.d.). In *Wikipedia*. Retrieved on September 26, 2015, from <https://en.wikipedia.org/wiki/Synapse>
2. Chemical Synapses. (n.d.). In *Encyclopedia of Life Sciences*. Retrieved on September 26, 2015, from <http://www.els.net/WileyCDA/ElsArticle/refId-a0000037.html>
3. How Nerves Work. (n.d.). In *How Stuff Works (Health)*. Retrieved on September 26, 2015, from <http://health.howstuffworks.com/human-body/systems/nervous-system/nerve5.htm>
4. Stufflebeam, R. (2008). Neurons, Synapses, Action Potentials, Neurotransmission. *Consortium on Cognitive Science Instruction*. Retrieved from http://www.mind.ilstu.edu/curriculum/neurons_intro/neurons_intro.php