**To understand the concept of neurotransmission and the functions of the primary neurotransmitters**

**Neurotransmitters**

A Neuron is a specialized nerve cell that receives, processes, and transmits information to other cells in the body. We have a roughly fixed number of neurons as they do not regenerate (on the whole). About 10,000 neurons die everyday, but since we start out with between ten and 100 billion (Hooper & Teresi, 1987), we only lose about 2% over our lifetime.

Information comes into the neuron through the ………………….. from other neurons. It then continues to the Cell Body (……………..) which is the main part of the neuron, which contains the nucleus and maintains the life sustaining functions of the neuron. The soma processes information and then passes it along the ……………... At the end of the axon are bulb-like structures called …………………….. that pass the information on to glands, muscles, or other neurons.

Click on the link to access the “Label a neuron” activity.

<http://myclass.theinspiredinstructor.com/science/health_diagrams/Neuron_Label.htm>

Draw a neuron here, and label the relevant parts.

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Information is carried by biochemical substances called **neurotransmitters**. The terminal buttons and the dendrites of other neurons do not touch, but instead pass the information containing neurotransmitters through a Synapse. Once the neurotransmitter leaves the axon, and passes through the synapse, it is caught on the dendrite by what are termed Receptors.

Watch the video to find out how synapses work.

[**http://www.bbc.co.uk/schools/gcsebitesize/science/add\_ocr\_pre\_2011/brain\_mind/informationrev2.shtml**](http://www.bbc.co.uk/schools/gcsebitesize/science/add_ocr_pre_2011/brain_mind/informationrev2.shtml)

The neurotransmitter, once received, will either *excite* or *inhibit* the postsynaptic neuron. That is, they will either encourage it to 'fire' or discourage it from doing so

The brain has different 'neurotransmitter systems': these are areas of or pathways in the brain that use different neurotransmitters as their primary way of communicating

Find out the names of TWO neurotransmitters and what they do.