

Building Realistic Neurons

Draw a picture of the commonly used model of a neuron cell. Label the **Cell Body (Soma)**, the **Axon**, and the **Dendrites**. This is a **model** of a neuron, but not what neurons actually look like!

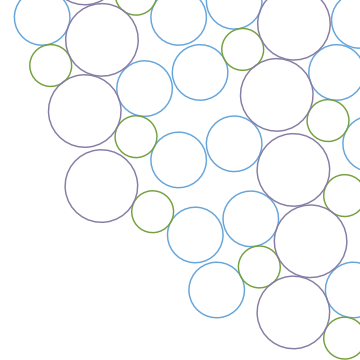
1. What is the function of the cell body?

2. What is the function of the axon?

3. What is the function of the dendrites?

4. **See - Think - Wonder:** Now let's take a look at realistic neurons that our scientists interact with!

SEE	THINK	WONDER
Describe exactly what you see:	What do you think is going on here as opposed to the traditional model?	What do you wonder about? What questions remain for you?



Let's build!

Follow the instructions on these slides to work in teams to build realistic neurons!

Materials needed

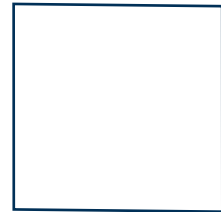
Excitatory - build this one first!

- 1 black pipe cleaner for soma
- 3 blue pipe cleaners for dendrites
- 2 red or orange pipe cleaners for axon
- Scissors

Inhibitory - build this one second!

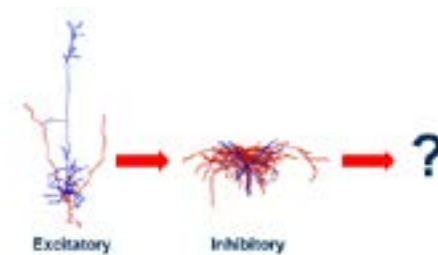
- 1 black pipe cleaner for soma
- 1 blue pipe cleaner for dendrites
- 3 red or orange pipe cleaners for axon
- Scissors

✓ Show your teacher and get a check mark here when you finish:



Extension: Connecting pipe cleaner neurons for cell communication

Take your neuron and connect it to a partner's neuron by attaching pipe cleaners. The AXON of one neuron connects to the DENDRITE of another cell. Then, predict what the result would be on the firing behavior if your connected neurons act on a 3rd cell. Would the 3rd cell be more excited, or less likely to fire?



Fill out this chart to describe the results of each communication on a 3rd cell?:

First Cell	Second Cell	Result on 3rd Cell? (quiets the 3rd cell or excites the 3rd cell?)
Excitatory	Excitatory	
Excitatory	Inhibitory	
Inhibitory	Excitatory	
Inhibitory	Inhibitory	