



**How Your Brain and Your Body Talk (🧠 A Brain Facts Story)**  
**(3<sup>rd</sup> Grade – 8-9 yrs.)**  
**Demonstration: At Arm's Length**



**STORY CONNECTION – SLIDES 5-9 (Approx Time: 5-10 mins)**

Your brain is made of cells – little pieces – called neurons. There are billions of these cells that make up your brain. These neurons do not just make up your brain, they make up the entire nervous system. The brain is part of the nervous system. Your brain is the part of the nervous system that is in your head. For the neurons in your brain to be able to talk to various parts of your body, you also have neurons outside of your head. Some of these neurons are in an area in your back, known as your spinal cord. The spinal cord contains neurons that are found in bones that you can feel in your back – vertebrae. Your brain uses the spinal cord to talk to your body. The brain uses some of these neurons to talk to your body AND your body uses some of these neurons to talk to the brain. Neurons LOVE to “talk” to other cells. In fact, neurons must talk to other cells – or else they die.

**Materials needed:**

- Paper
- Pencils
- Chart paper or whiteboard
- Markers

**Preparation needed:**

- Determine how student(s) will be partnered

**Instructions:**

1. In this activity, student(s) will use their arms to better understand the concept of a neuron. Other activities are more in depth about the neuron, but this introductory activity will give them something concrete to compare a neuron to.
2. Have the student(s) hold out one of their arms and spread out their fingers.
3. Explain that their hand represents the **cell body** or the soma. Write **cell body** on chart paper or whiteboard. The cell body of the neuron helps to keep the neuron working.
4. Their fingers represent the **dendrites** bringing information to the cell body. Write **dendrites** on chart paper or whiteboard. Neurons like to “talk” to each other and the way neurons get information from other parts of your body or from other neurons is through the dendrites.
5. Their arm represents the **axon** taking information away from the cell body. Write **axon** on chart paper or whiteboard. Neurons take the information that they get from other parts of the body and from other neurons and they then pass that information along through their axons.
6. Next, partner student(s) up.

7. Have one student hold out their arm and spread their fingers. Their partner will draw or trace their partner's arm, hand, and fingers.
8. Switch roles and the other person draws or traces their partner's arm, hand, and fingers.
9. Student(s) will then work together to label the cell body, dendrites, and axon.
10. In closing, review the parts of the neuron and what each part does. Remind student(s) that there are BILLIONS of neurons in their bodies and that they are constantly sending and receiving messages. The more they understand about how their brain and body talk to each other, the healthier their brains and bodies will be.

Activity Idea Credit: <https://faculty.washington.edu/chudler/chmodel.html>

