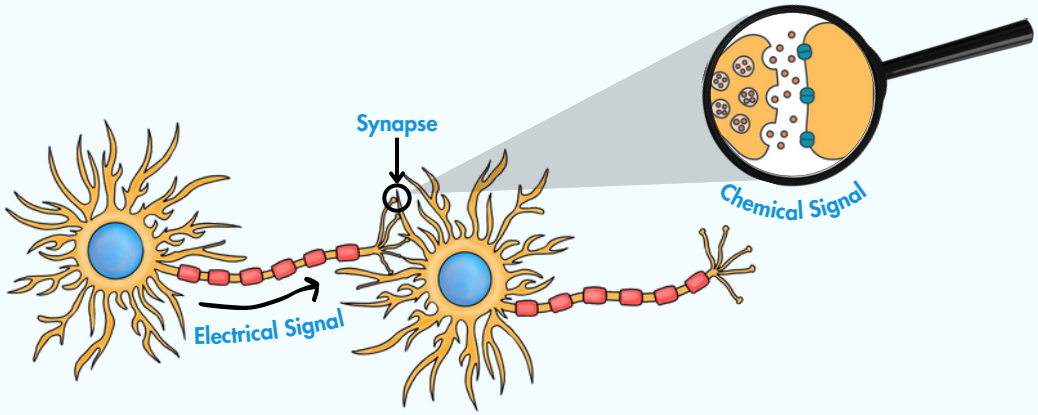
NEUEROPLASTICITY

FOR TEACHERS

The brain has around 100 billions neurons, or nerve cells. Neurons communicate and connect at synapses, or the junction between two neurons. Each neuron can have hundreds or thousands of synaptic connections, resulting in over 100 trillion synaptic connections in the brain. This creates a complex and dynamic network that enables us to think, feel, act, and exist. The connections between neurons are capable of change, allowing the brain to structurally and functionally adapt to an ever-changing world. This ability is called **neuroplasticity**.

Neurons communicate using electrical and chemical signals. Messages start as **electrical signals** that travel down a neuron. When they reach the gap between two neurons, called the **synapse**, they turn from an electrical signal to a chemical signal. The **chemical signal** then travels across the synapse. With repeated activity, the synapse gets stronger and the signals get faster.



How does this relate to education?

You, as teachers, are experts at fostering neuroplasticity in your classrooms. Neuroplasticity, the process that facilitates learning and development, is central to your work. You skillfully balance developmentally appropriate cognitive challenges with the necessary supports students need to succeed. You create emotionally supportive and safe environments that students enter every day. You develop responsive relationships and understand your students not just as learners but as individuals. You advocate for students' physiological well-being because you know a surviving brain is not a learning brain.

Learning ultimately happens within and by the students. This is why teaching students about how their brain learns is so important. It empowers them to take ownership of their education, helping them see that their attitudes and efforts directly impact their learning and growth.

Visit ***www.brightlightneuro.com/unit1-lesson3*** for resources to help you teach students about neuroplasticity.