



Activity 2: Synapse Toss

Test your aim in a fun tabletop game, and learn how your brain cells talk to each other while you play!

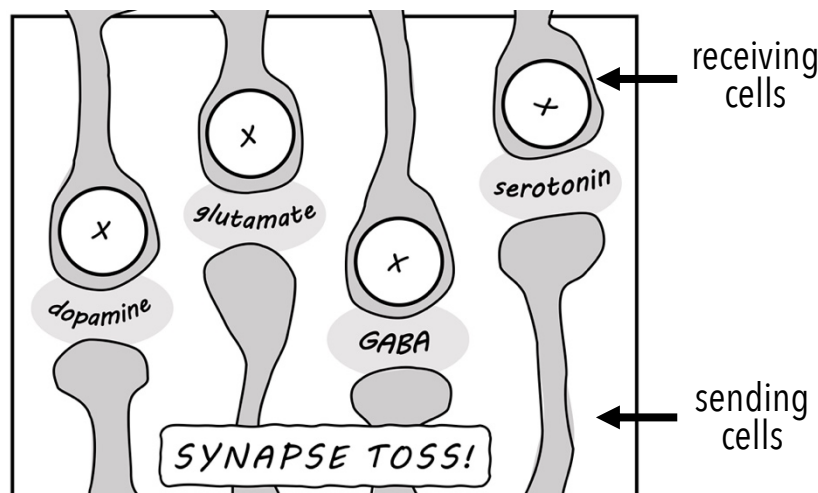


Materials:

- Game board
- Pom poms
- Cups
- Velcro dots

Join us on **Mar. 20** at **2pm** to do this activity together! bit.ly/satsci21

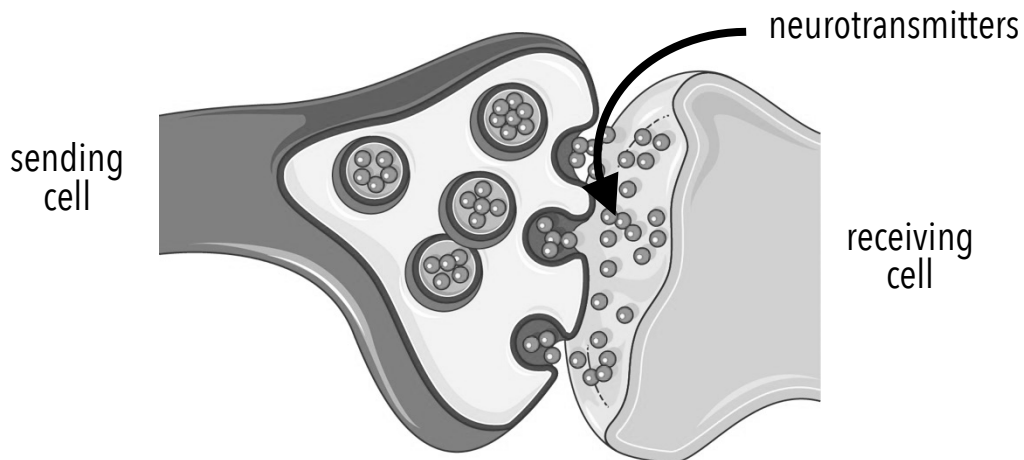
1. In your nervous system, your brain cells signal to each other through *synapses*, or little gaps between the ends of cells. Brain cells use chemicals called *neurotransmitters* to send all sorts of messages to each other across these gaps. Some tell the next cell to pass along a signal, and some tell it not to!
2. Take out your gameboard. Using your pairs of Velcro sticky dots (some rough and some soft), stick a soft dot in the middle of each circle, on each **X**.
3. Next, stick a rough dot on the bottom of each of your four cups and place them on the circles. Push a little from the back of your board to attach them.
4. Your game is now assembled! But before you play, let's learn what this has to do with your brain!



You are one set of brain cells, and your game board is another, connected by synapses. See the names near the circles on the board? Each one is a neurotransmitter that tells the other cells what to do. Your pom poms are these chemicals, and each cup of the same color detects them. Get them in the cups that match, or their signals won't be heard!

5. Now move the board away a few feet and start throwing. See how many you can throw correctly before running out!

This is how a synapse looks close up! Remember, you're throwing little packets of chemicals, and the cups are their detectors.



Think about it: If there were more cups of one color, would it be easier or harder to toss the pom poms in? What if there were more pom poms of that color? By changing the number of receptors and neurotransmitters, synapses can grow stronger or weaker, making it easier or harder to send a signal across.

Further fun: Challenge yourself by moving farther away from the board, or ask your family and friends to play Synapse Toss too!

