

Darius Banks
Ishikawa Chihiro

Synaptic Tag

Purpose:

To demonstrate the modalities of synaptic transmission, explain how drug influences might effect neural transmission, and to demonstrate the random kinetic properties inherent in transmitter inhibition, competition, and binding.

Materials:

Name Tags, or construction paper signs. Tap or cones for marking playing area, blindfolds.

Procedure:

The game will be constructed as a form of tag, with those who are “it” representing enzymes(with inhibitory or reuptake properties), and the rest as neurotransmitters. The neurotransmitters will be blindfolded and begin at the presynaptic side of the play field. The goal is to attempt to get to the postsynaptic side without being tagged, those who are tagged will have to return and try again, simulating reuptake. The blindfolds and their part in simulation random motion will be explain, and in addition the idea of action potentials and their propogation down the axon will be provided as background information.

Issues:

Play field will need to be relatively large to accommodate a group of sightless children. Also the properties of inhibition, and receptor binding are being over simplified to facilitate the game. Lastly, while the blindfolds are an attempt to simulate random motion they can only partially succeed since there is no limited “playfield” in the synaptic cleft.