# Play Dough Bio

**Description:** Activity set consists of play dough and toothpick flags.

**For Instructor:** With play dough and toothpick flags, students can sculpt/shape and label different anatomical structures related to their study of psychology. Works well for in class or in PIRC. Works well for individual and group instruction.

**Setup Time:** 1 minute

**Learning Goals:** Locate important nervous system anatomy. Gain greater understanding of brain functions.

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## Suggested Activities

**ACTIVITY 1: Create & Label Lobes Of The Brain (15 – 30 minutes)**

1. Get at least five different colors of play dough and toothpick flags from the PIRC.
2. From play dough, sculpt brain with frontal, parietal, temporal and occipital lobes located and sized correctly. Use different color play dough for each lobe.
3. Using the toothpick flags, create a label for each lobe. Also, list the basic functions of each lobe, on the toothpick flags.
4. If completing in PIRC, students can take a picture of their completed work and submit for credit.

**ACTIVITY 2: Create The Brain Stem (30 - 60 minutes)**

1. Get at least five different colors of play dough and toothpick flags from the PIRC.
2. From play dough, sculpt brain stem with pons, medulla, thalamus, midbrain, and other nearby structures. Use different color play dough for each structure.
3. Using the toothpick flags, create a label for each structure. Also, list the basic functions of each structure, on the toothpick flags.
4. If completing in PIRC, students can take a picture of their completed work and submit for credit.

**ACTIVITY 3: Create The Limbic System (30 - 60 minutes)**

1. Get at least five different colors of play dough and toothpick flags from the PIRC.
2. From play dough, sculpt limbic system with thalamus, hypothalamus, hippocampus, amygdala located and sized correctly. Include other adjacent structures where appropriate.
3. Using the toothpick flags, create a label for each structure. Also, list the basic functions of each structure, on the toothpick flags.
4. If completing in PIRC, students can take a picture of their completed work and submit for credit.

**ACTIVITY 4: Create & Label Neuron (30 - 60 minutes)**

1. Get at least five different colors of play dough and toothpick flags from the PIRC.
2. From play dough, sculpt neuron with dendrites, cell body, nucleus, axon with myelin sheath, axon terminals, and terminal buttons located and sized correctly. Use different color play dough for each structure.
3. Using the toothpick flags, create a label for each structure. Also, list the basic functions of each structure, on the toothpick flags.
4. If completing in PIRC, students can take a picture of their completed work and submit for credit.

**ACTIVITY 5: Create & Label Synapse (30 - 60 minutes)**

1. Get at least five different colors of play dough and toothpick flags from the PIRC.
2. From play dough, sculpt synapse with presynaptic axon, terminal button, mitochondria, synaptic vesicles, neurotransmitter molecules, synaptic cleft, postsynaptic cell, receptor sites, located and sized correctly. Use different color play dough for each structure.
3. Using the toothpick flags, create a label for each structure. Also, list the basic functions of each structure, on the toothpick flags.
4. If completing in PIRC, students can take a picture of their completed work and submit for credit.

**ACTIVITY 6: Create & Label Axon Membrane (30 - 60 minutes)**

1. Get at least five different colors of play dough and toothpick flags from the PIRC.
2. From play dough, sculpt just a segment of axon membrane at rest. Include sodium and potassium molecules appropriately concentrated inside and outside of the axon. Include sodium/potassium pump and sodium and potassium pathways. All structures should be located and sized correctly. Use different color play dough for each structure.
3. Using the toothpick flags, create a label for each structure. Also, list the basic functions of each structure, on the toothpick flags.
4. If completing in PIRC, students can take a picture of their completed work and submit for credit.