

# The Human Brain: Playful Ways to Explain Complex Concepts

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Childhood trauma has a profound and complex effect on the developing mind. Unfortunately, misunderstanding of trauma is widespread and can prevent impacted children from getting the support and treatment that they need. Because many families come to therapy without fully understanding the specific developmental needs of their child, one of the first stages of treatment is often psychoeducation. Access to information regarding how trauma and anxiety affect the brain can help families gain insight into the intense feelings and behavior these ailments cause, while empowering families to approach symptoms in an optimal way. Having this knowledge can help dispel misinformation and normalize a child's experience. Therapists who offer information on brain development can also help clients better understand the etiology of their symptoms.

So how can therapists incorporate lessons on brain development into sessions? Thinking back to my days as a student, when my eyes would glaze over at the first mention of neurons and synapses, I knew I needed an interesting and playful way to teach the basics of brain development. Luckily for play therapists, creativity is our specialty.

One of the best ways to break down neuroscience for everyday understanding is with visual aids that make the concepts easier to grasp. Here's a peek at some of the visual aids I use when explaining the brain to kids and parents:

First, I like to introduce a visual representation of the whole brain. I use the model to explain the basics of brain development at an age-appropriate level, and cover topics such as the roles of the brain's different regions, and how experiences can impact development. Sometimes the child and I put on lab coats and become scientists as we study the brain with magnifying glasses. Here's how you can create your own brain model:

- Buy one: Toy brain, brain model, Human Brain Coloring Book, or "Grow a Brain" (available on amazon.com)
- Make a Printable Brain Hat (for more info search this on the internet)
- Siegel's "Hand Model of the Brain" is a simple and useful tool.

Next I create "brain bags." For this part you'll need a toy model of the brain that you can take apart. Take each piece of the brain and place it in a separate bag along with items that visually represent that particular region's role. This helps convey the function of each part of the brain in a way that is easy for children to remember. With each brain bag, I go into more detail on the job of each part of the brain. Here are some examples of the regions of the brain I focus most on:

The Prefrontal Cortex ("Thinking Brain") is responsible for higher level cognition, including problem-solving and emotional regulation. For this lesson use Legos to

explore with the client which skills are helpful when using the blocks to build. You might point out how focus and attention, planning, and frustration management are all controlled by the prefrontal cortex.

- Items in bag: Lego blocks and people

The Brain Stem ("Lizard/Reptilian Brain") is a primitive part of the brain that is responsible for basic physiological processes, like breathing, in addition to survival instincts, including triggering the "flight, fight or freeze" reaction. Illustrate the role of this part of the brain with miniatures that represent survival responses.

- Items in bag: Dinosaur/lizard (primitive/survival region), bird ("flight"), ninja ("fight"), Arctic animal ("freeze")

The Limbic System ("Emotions Brain") is the region responsible for many functions including emotions, behavior and motivations. It also works in conjunction with the brain stem to help ensure safety.

- Items in bag: Figures representing emotions (e.g., angry birds, characters from the movie "Inside Out", etc.). Alternatively, if you want to get more specific you can choose a figure to represent each part of the system (e.g., amygdala, hippocampus, etc.)

Plasticity is the brain's ability to change over the lifespan through the reorganization of neural pathways. The final bag contains a small brain mold and play dough, which I use to illustrate the concept of brain plasticity. As we mold the play dough we discuss how we are "shaping" the brain. This is an important part to cover because people often think of the brain as static. Learning about some of the physical and developmental effects of trauma can lead to a powerless feeling without knowledge of the brain's ability to change.

"Flipping Your Lid": When we "flip our lids" the emotional part of the brain takes over and limits our connection to the cortex. Explaining this concept can help clients understand the experience of being "triggered."

- Video of Siegel explaining "flipping your lid" using his "hand model"
- Another version sometimes taught is the "house model" of the brain. Highlight how when people interact they expect to be talking to the cortex (represented by the Lego person), but are sometimes talking to the other characters instead. Discuss the confusion this may cause (e.g., when teacher doesn't understand why a child is unfocused) and the different needs that each region of the brain has.

The movie "Inside Out," is helpful to relate the regions above to the brain in the movie. I talk about the brain stem being an alarm that triggers the feeling characters, who represent the limbic system, into overdrive. The cortex is represented by the control panel, and when the alarm sounds the panel begins to glitch, limiting the characters' abilities to control their behavior.

If you can find playful and engaging methods to discuss the neurological side of your client's issues, it will likely result in more successful treatment. Let your creativity shine!

Disclaimers:

- Clearly these explanations are grossly oversimplified, but these concepts can be difficult to communicate.
- This activity is not appropriate for all clients, so use your clinical judgement and modify to meet specific needs.

### **About the Author**

Lauren Stockly, LCSW, RPT, PPSC earned her Master of Social Work from University of California Los Angeles where she focused on children/family mental health, child welfare and school social work. She currently works for the Soutenders group practice in Arcadia, California, and is a member of the board of the California Association for Play Therapy. She also runs a popular therapy blog called "[Creative Social Worker](#)," which she uses to promote play therapy and provide a space for clinicians to share their ideas and resources.