

Making Neuroscience Fun



A Brain Awareness Program for All Ages
It's SPECTacular!

Science Behind the Story (SBS)
Do I Really Have a Brain? (🧠 A Brain Facts Story)
(PreK - 4-5 years old)

This story talks about how you know that you have a brain, even though you cannot see it or feel it.

- 🧠 If we are going to take care of our brain, we need to know we have a brain.

In this story, children use empathy to understand when someone is distressed and prosocial behavior to help someone resolve a problem that they have.

Empathy helps emotional development (Drigas, 2018, Kerr, 2019). Understanding the emotional state of others is one of the things necessary for emotional intelligence (Kerr, 2019).

Prosocial behaviors help social development. Helping others makes students feel good about themselves which helps with their self-esteem (Drigas, 2018; Sanchez-Nunez, 2020).

By identifying their own feelings, feelings of others, and how to help one another, students will begin to understand that health is multi-dimensional. Emotional and social health are just as important as physical health. It will allow them to be more successful in their daily lives when surrounded by different people, situations, and environments.

- 🧠 Scientists ask questions to figure things out.

Students also learn that they are natural scientists as they ask questions just like scientists do. Scientists ask questions to figure things out. The students act as scientists in this story to figure out if they have a brain.

- 🧠 This story has the children acting as scientists to figure out if they have a brain.

Teaching students different ways to get information, inferencing, also helps with their cognitive development (Currie, 2019).

By helping the facilitator solve the problem through asking questions, inferencing, and reasoning, students will determine a major function of the brain is thinking. Students are also introduced to a simple cause and effect scenario. They have a brain; therefore, they can think. They can think because they have a brain.

National Education Standards:
Next Generation Science Standards

- Crosscutting Concepts:
 - **Structure & Function:** The way an object is shaped or structured determines many of its properties and functions.

- The shape and stability of structures of natural and designed objects are related to their function(s).
- **Cause & Effect:** Events have causes, sometimes simple, sometimes multifaceted. Deciphering causal relationships, and the mechanisms by which they are mediated, is a major activity of science and engineering.
 - Events have causes that generate observable patterns.

National Health Education Standards (Shape America) & CDC (Centers for Disease Control and Prevention)

- **Standard 1:** Students will comprehend concepts related to health promotion and disease prevention to enhance health.
 - 1.2.2: Recognize that there are multiple dimensions of health. **(CDC)**

References:

Currie, Nicola K.; Muijselaar, Marloes M. L. (2019). Inference making in young children: The concurrent and longitudinal contributions of verbal working memory and vocabulary. *Journal of Educational Psychology*, Vol 111(8), <http://dx.doi.org/10.1037/edu0000342>

Drigas, A. S., & Papoutsis, C. (2018). A New Layered Model on Emotional Intelligence. *Behavioral sciences (Basel, Switzerland)*, 8(5), 45. <https://doi.org/10.3390/bs8050045>

Kerr, K. L., Ratliff, E. L., Cosgrove, K. T., Bodurka, J., Morris, A. S., & Kyle Simmons, W. (2019). Parental influences on neural mechanisms underlying emotion regulation. *Trends in neuroscience and education*, 16, 100118. <https://doi.org/10.1016/j.tine.2019.100118>

Sanchis-Sanchis, A., Grau, M. D., Moliner, A. R., & Morales-Murillo, C. P. (2020). Effects of Age and Gender in Emotion Regulation of Children and Adolescents. *Frontiers in psychology*, 11, 946. <https://doi.org/10.3389/fpsyg.2020.00946>