

The Impact of Play on Brain Growth

Play is a powerful driver of early brain development and understanding how it shapes growth helps parents make informed choices that support healthy learning.

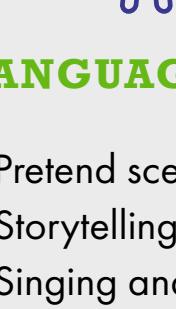
How Play Strengthens Neural Pathways



Play increases synapse formation, boosting communication between brain regions.¹



Repetition during play strengthens neural circuits tied to focus, memory, and coordination.²



Creativity-based play activates higher-order thinking areas, enhancing cognitive flexibility and planning.³



Play enhances brain structure and executive function, supporting self-regulation and learning.⁴



Play engages multiple brain systems, increasing overall neural connectivity.⁵

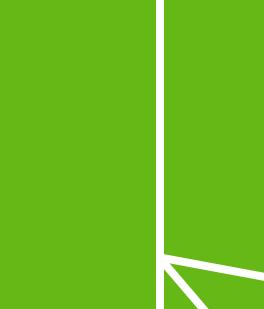


Types Of Play That Boost Language, Math & Problem-Solving



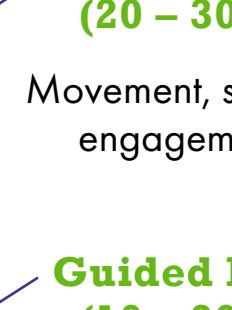
LANGUAGE PLAY

- Pretend scenarios
- Storytelling with props
- Singing and rhyming



MATH PLAY

- Block building
- Counting games
- Sorting and pattern activities



PROBLEM-SOLVING PLAY

- Puzzles
- Treasure hunts
- Open-ended STEM toys



How Play Strengthens Neural Pathways

• Builds perspective-taking and early reasoning skills.

• Strengthens language processing through back-and-forth dialogue.

• Encourages negotiation, planning, and emotional regulation.

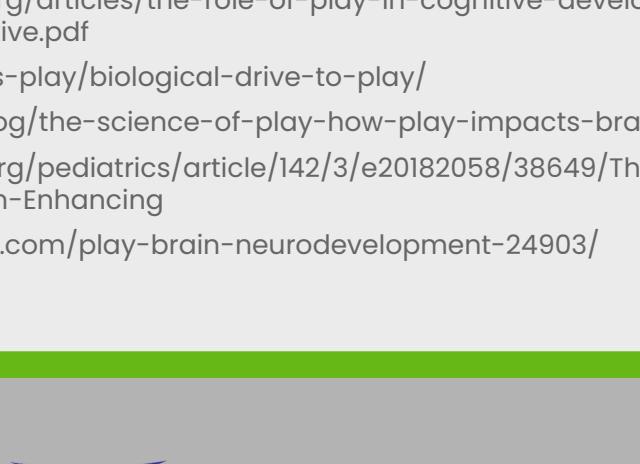
Unstructured Play (40 – 50%)
Free exploration, imaginative play.

Outdoor Play (20 – 30%)
Movement, sensory engagement.

Guided Play (10 – 20%)
Adult-led learning moments.

Quiet Play (10 – 20%)
Reading, drawing, calm activities.

What Balanced Playtime Looks Like



Sources:

1. alliedacademies.org/articles/the-role-of-play-in-cognitive-development-a-neuro-scientific-perspective.pdf
2. nifplay.org/what-is-play/biological-drive-to-play/
3. ipaengland.org/blog/the-science-of-play-how-play-impacts-brain-development
4. publications.aap.org/pediatrics/article/142/3/e20182058/38649/The-Power-of-Play-A-Pediatric-Role-in-Enhancing
5. neurosciencenews.com/play-brain-neurodevelopment-24903/

• Turn chores into mini challenges.

• Create a "loose parts bin" with safe household items.

• Build obstacle courses indoors or outdoors.

• Start a nightly storytelling swap.



The Brunswick School

