



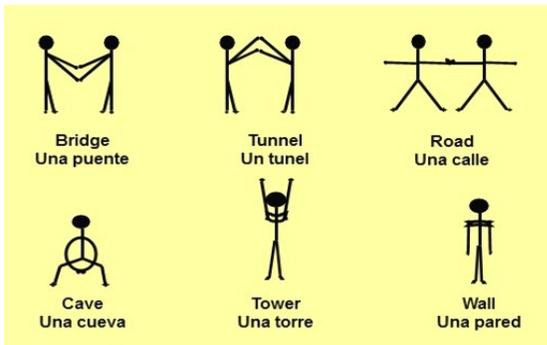
**ANGELA RUSS-AYON**  
**BODY SHAKES & BRAIN WAVES**

AbridgeClub.com  
 a Russ InVision site  
 P: 562-421-1836  
 info@abridgeclub.com  
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**WARM-UP THE BODY - TEMPO & TONE**

Play music that is upbeat with a tone of voice that is high-pitched and excited to get children energized - at a mid-tempo to move but not lose them - and play music at the resting heart rate with a low-pitched tone of voice to calm them down.

“Build a Bridge” To: “If You’re Happy & You Know It”  
 🎵 *Smart Moves 1 & Smart Moves 2 CDs*



Expand on this well-known melody to build shapes, mimic an animal or form of transportation, or introduce other concepts “Spend a penny (1 finger), spend a nickel (5 fingers), spend a dime (10 fingers)!”

🎵 *Math Music & Motion CD*

**BRAIN PATHWAYS:** In early childhood, the brain undergoes rapid development and forms a complex network of pathways and connections that lay the foundation for cognitive, emotional, and sensory processing. These pathways and connections are crucial for learning, memory, and overall brain function.

- **NEURONS:** Neurons are the building blocks of the brain. In early childhood, the brain generates billions of neurons, which are specialized cells that communicate with each other through connections called synapses.
- **SYNAPSES:** Synapses are the junctions where neurons communicate. During early childhood, synapses are formed, strengthening connections that are used frequently and pruning unused connections. This synaptic plasticity is essential for learning and memory.

**HOW CAN WE BUILD BRAIN PATHWAYS?** Here are some of the main ways to help children build brain pathways:

- Physical and verbal interaction with caregivers
- Physical and/or verbal responses to instruction
- Fine and gross motor activities
- Nurturing
- Sensory-motor activities (indoors and outdoors)
- Music and movement
- Crossing midlines when moving
- Tracking activities
- Clapping games
- Vestibular activities
- New and novel experiences
- Reducing stress
- Good nutrition

**COGNITIVE FUNCTION:** A variety of habits improve cognitive function, such as:

- New and novel experiences
- Making social connections
- Meditation
- Getting enough sleep
- Reducing chronic stress
- Visualizing fictional stories
- Physical Activity
- Brain Games

**WHY MUSIC?**

Music prompts greater connectivity between the brain’s **left and right hemispheres** and between the areas responsible for **emotion and memory** than almost any other stimulus.

**MOVEMENT** and **RHYTHM STIMULATE** the **FRONTAL LOBES** and enrich **LANGUAGE** and **MOTOR** development.

**CROSSING MIDLINES** is the ability to move a part of the body, such as a hand, foot, or eye into the space of the other hand, foot, or eye across imaginary lines. When we cross the midlines of the body, the two hemispheres of the brain communicate across the **Corpus Callosum**. Neurons and synapses are firing and attempting to connect!



- ▶ Left / Right
- ▶ Top / Bottom
- ▶ Back / Front

The more connections made in the brain, especially before the age of 7, the faster we are apt to learn and the more information we are likely to retain into adulthood.

**MEMORY AND LEARNING OCCUR WHEN THE NEURONS AND SYNAPSES IN THE BRAIN REORGANIZE AND STRENGTHEN THEMSELVES THROUGH REPEATED USAGE.**

**TRACKING:** The **left-to-right tracking ability** is necessary for the brain to be ready to read and write effectively.

**VESTIBULAR SYSTEM:** The vestibular system processes incoming sensory data. When you move your head or spin around, changing your body's orientation, the liquid in your inner ear canals move too. Research shows that activities that stimulate inner ear motion and can result in significant gains in attention and reading. Some activities that help develop the vestibular system are swinging, rocking/rocking a horse, riding a scooter board, spinning on a swivel chair, hammocks, hanging upside down, etc.

**SPATIAL SENSE:** Developing spatial sense means children improve their ability to judge distances between their bodies and objects around them and control their limbs while keeping track of their entire body's location.

**TRANSITION CHILDREN USING BRAIN BREAKS:** When moving children from the table to the carpet, or from the carpet to the door, or in from outside - or redirecting them from one activity to another, give them a simple physical activity to do as they transition: Standing and sitting, clapping in different directions, jumping a number of times, moving like animals, etc.

*"Children should not be sedentary for more than 60 minutes at a time."*

NASPE 2002 - Nat'l Ed. for Sport and Phys. Ed.  
[www.aahperd.org](http://www.aahperd.org)

**PROPS & EQUIPMENT:** Introduce scarves, streamers, balls, ropes/laces, instruments, or child-safe **manipulatives** into everyday activities. Props help develop ocular control skills and can bring exciting new **visual** and **physical aspects** to any music & movement activity.

**MOTOR SKILLS** help build brain motor pathways, including fine motor/manipulative skills (use of hands and feet), non-locomotor (moving in one place), and locomotor (large muscle groups moving the body to another place).

**ENHANCING DIRECTIONALITY:** Consciously using **prepositions**, **opposites**, and **directional terms** when directing children on where and how to move expands their vocabulary and helps them communicate more effectively. Abstract concepts, like opposites, are difficult to explain but become more concrete when demonstrated using motion. Positional words also assist children when they begin to develop their writing skills.

*"Belly on top. Belly below. Three has nowhere else to go."*  
♪ *Smart Songs 1 CD*

**SENSORY-MOTOR ACTIVITIES:** Sensory-motor activities stimulate different regions of the brain, providing it with valuable information about the environment, such as texture, temperature, sound, and spatial orientation.

**CLAPPING GAMES:** Age-appropriate clapping games can engage brain circuitry, boost cognition, promote pattern extension, relieve boredom, and have other wonderful benefits for ALL AGES! There are many clapping games and chants. Choreograph your own variation or make up a new game altogether.

### **"HIGH, LOW, PICCOLO"**

♪ *Clapping Games and Chants CD*

My name is high, low, Piccolo  
Piccolo, high, low  
High, low, Piccolo  
Piccolo, "Hello!"

**MEMORY:** We kick start the memory process by creating memorable **episodes** and **novel** learning experiences that children will take home, repeat, and teach to someone else. Children tend to remember more in a comfortable environment where they can control their moods, read other people, react to emotions appropriately, explain their own thoughts, and justify their actions.

### **SIMPLE WAYS TO KEEP MOVING & BUILD COORDINATION:**

- **Chalk & Rope / Lace Activities:** shapes, numbers, letters, patterns, lines and pathways, create art, imaginative play. Hopscotch, jump over & other motor skills, draw an obstacle course.
  - **Moving along pathways:** straight, curved, zigzag, waves, squiggles.
- **Cut-outs** out of foam/paper/fabric: shapes, colors, numbers, letters, or action words. Use as targets for motor skills, manipulation, or scavenger hunts.
- **Locomotor Moves:** walk, run, jump, hop, crawl, march, gallop, climb.
- **Non-locomotor Moves:** bend, stretch, lift, rise, twist, flex, shake, push.
- **Equipment**
  - **Bubbles:** to blow, chase, pop, jump on
  - **Large boxes:** to climb into, crawl through, fill/empty, transfer solids, stack, decorate, imaginative play, construct & build.
  - **Balls** (beach balls, foam balls, bouncing balls): to pass, roll, bat, bounce, toss, throw, catch, kick (Balloons are a choking hazard).
  - **Ribbons/scarves:** to dance, shake, wave, toss, make fly, creative movement.

- **Pool noodles:** to jump over, crawl through, strike with, slice and stack, construct for floating activities, etc.
- **Hula Hoops:** to roll, crawl through, jump in and out of, create an obstacle course, use as a target.
- **Paper plates:** as steppingstones, balance spots, targets.
- **Beam Bags:** to stack, pass, toss & catch, toss to a target, balance on body parts, relay games.
- **Plastic cones:** to create pathways, barriers, and direct foot traffic.
- **Plastic or paper cups:** stacking, knocking down, filling, constructing, transferring liquids or solids.
- **Buckets, shovels, spoons:** to scoop, dump, transfer solids or liquids.
- **Line up:** using motor skills, animal acts, balance a beanbag on a body part, "1,2,3 FREEZE," or follow the leader.
- **Interpret story content:** "Very Hungry Caterpillar": Line up and be a caterpillar, ball up into a chrysalis, uncurl, fly like a butterfly.
- **Animal mimicry / puppetry:** foam/paper/fabric and other materials.
- **Musical instruments:** shakers, drums, ukeles, scrapers (retail or homemade) for rhythmic movement and dance.
- **Dancing:** Free dance, dance freeze, choreograph a dance
- **Partnering games:** Clapping, circle dances, parachute play, jump rope, Follow the Leader, Simon Says, tag, etc.
- **Yoga Mats / towels / stuffed animals** define space for quiet activities like stretching, breathing exercises, and mindfulness.

## THE TROUBLING TWOS

Between 18-months to 3-years...

- Toddlers have trouble communicating their needs and feelings.
- They are beginning to recognize their independence and control of their environment, so they frequently test rules and limits set by parents
- Their prefrontal cortex - responsible for impulse control and emotional regulation - is still underdeveloped, resulting in rapid emotional shifts.
- They are egocentric, have trouble seeing things from another person's perspective, so don't understand concepts like sharing, patience, or compromise.
- Limited ability to adapt to sudden changes.
- Separation anxiety

## THE LIMBIC LEAP

Around ages 4-5, a child's limbic system (the part of the brain that controls emotions, impulses, and social behavior) goes through a major growth spurt.

- Big emotions:
- Impulsivity
- New fears & anxieties
- Wants independence, but not really ready for it "I do it!" but melts down when they can't.

**TRIGGERS AND CODES:** When you experience **bizarre or challenging behavior**, pay close attention and record what's happening in the environment before, during, and after the incidents. Doing so can lead to an understanding of the triggers. Children send coded messages; we just need to break the code.

### **Emotional/Social Triggers**

- **Difficulty sharing or taking turns** Struggles with impulse control and cooperation.
  - *Do you want to play with it together or take turns one at a time?*
  - *How do you think your friend feels when they can't play too?*
  - Model, role-play with puppets, positively reinforce, and help them practice what to say:
    - *Can I play too?*
    - *I'm not ready to share yet.*
    - *I'm almost done.*
- **Conflict with peers** Arguments, teasing, or feeling excluded.
  - Move through conflict resolution steps
  - Tell me what happened.
  - Reinforce basic rules:
    - Hands are for helping, not hurting.
  - Model and practice kind words and gentle hands
  - Read books about friendships and conflicts
    - "Hands Are Not for Hitting" by Martine Agassi
    - "How Do Dinosaurs Play with Their Friends?" by Jane Yolen
  - Reinforce positive behavior
  - That was very kind of you. Thank you.
- **Feeling unheard or ignored** Seeking attention in negative ways when needs aren't acknowledged.
  - Recognize the pattern - when it happens
  - Reflect their identity using their name, photos, references to them
  - Assign them a buddy
  - Assign them simple tasks to do - class helper
  - Give them some one-on-one time

- **Frustration with tasks**  
Tasks that are too challenging (or too easy and boring).
- Break the task down into manageable steps
- Use visual cues or step-by-step demonstrations
- Encourage them – You can do it.
- Give them tools to regulate emotions: deep breaths, calm down area, counting to 10, a stuffed animal to hug

### Internal Triggers

- **Limited communication skills**  
Difficulty expressing feelings or needs verbally.
  - Teach sign language
  - Use cards with images: potty, food, happy/sad, blocks, ball, etc.
- **Emotional dysregulation**  
Trouble identifying or managing big emotions.
- **Trauma or stress**  
Past or present experiences that affect current behavior: loss, fire, divorce, abuse, a move
- **Medical or developmental challenges**  
Underlying issues that affect behavior & self-control.
- **Sensory sensitivities**  
Reactions to textures, sounds, lights, or smells.
  - Children may need help **stabilizing their senses** with **sensory breaks** so they can **fill sensory needs** either proactively (anticipated) or reactively (in the moment).

### WHAT CAN YOU DO?

- **Stay calm - Count to 10**
- **Whisper**
- **Model the behavior you want to see.**
- **Validate their feelings**
- **Help them name their emotions** - Disney's "Inside Out"
- **Offer choices**
- **Set clear, consistent limits:**  
Reinforce boundaries calmly but firmly.
- **Keep sentences simple.** "No biting. Biting hurts."
  - Show comfort to the bitten child
  - Encourage positive behavior
  - Model and roleplay better behavior
- **Maintain routines**
- **Establish a private handshake**
- **Redirect attention - Distract!**
- **Invite them** to do something more challenging
- **Take them outside**

- **Rephrase how you say things.**
- Instead of "Stop running!" say, "I bet you can't walk like a slow-moving sloth."
- **Use music and movement**
- **Get creative and playful.**
  - Play a freeze or "I Spy" game, "The floor is lava," "I bet you can't..." etc.
- **Hand them something unexpected**
- **Use music and movement**
- **Get creative and playful**
- **Play games:** *Dance Freeze*, or *I Spy*, *The floor is lava*, *I bet you can't...*, clapping games, etc.
- **Make adjustments to their environment.**
  - Hand them something unexpected
  - Check noise levels
  - Add or remove toys

**OBSERVING WHAT CHILDREN GRAVITATE TO** when they repeat behaviors might give you some clues to the sensory activities that will help them calm down and regroup.

- Snuggling a pillow / stuffed animal
- Chewing crunchy food / Sucking on a pacifier
- Sensory stimulation with different textures
- Soft secluded seating area
- Handling fidget or stress toys
- Laying under a weighted blanket
- Wearing noise cancelling headphones
- Listening to soft classical music
- Receiving a hug, massage, back rub, rocking
- Sensory bins | fingerpaint | clay | sand | water
- Aromatherapy: lavender or chamomile
- Dimming the lights
- Looking at visual stimuli: lava lamps, bubble tubes
- Live animal interactions
- Taking a walk or relaxing outdoors

**Thank you for listening,  
and welcome to the CLUB!**

We ALL need to stay active and engaged!  
Keep your brain firing on all cylinders.

