

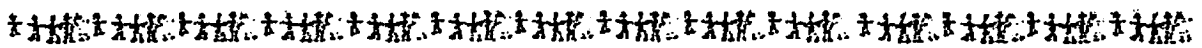
## HAND STRENGTHENING ACTIVITIES

~ "Sufficient strength is necessary to initiate all types of grasp patterns and to maintain these patterns during carrying" (Exner, C., In Case-Smith, Allen, & Pratt, 1996, p. 271)

~ Hand strength is needed for pre-writing/colouring activities and for self care. Your child will need finger and hand strength to button or zipper his/her clothes, and to open food packages for school lunches or snacks. Here are some activities that you can do at home to help your child improve his/her hand strength.

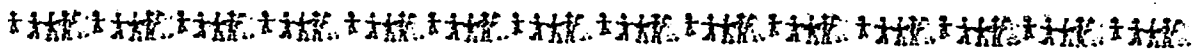
- Playing with spray bottles and squirt guns (your child can 'paint' the sidewalk or side of the house with a spray bottle filled with water or even water your plants)
- Using squeeze toys and 'stress balls' (during water play and air play) (Dollar Store)
- Playing with wind-up toys (Dollar Store)
- Bubble paper popping (Yack, Sutton, & Aquilla, 1998)
- Dressing-up dolls and playing with action figures (i.e. transformers, "Stretch-Armstrong")
- Molding and rolling playdough into balls
  - Retrieving coins or other small objects (i.e. paperclips, marbles, etc.) from inside playdough or silly putty/theraputty
- Playing games with finger puppets
- Scrunching up 1 sheet of newspaper in one hand and tossing it into a wastebasket (child can alternate throwing hand)
- Computer typing & playing video games
- Playing with squeeze bottles for water play (i.e. save empty plastic ketchup, shampoo, and salad dressing bottles and play in the bath tub, pool or at the sink).
- Encourage your child to open small packages (i.e. individually wrapped cookies, fruit snacks) and to open and close containers at snack time
- "Popoids" or other push/pull activities where your child is required to maintain a strong grasp. "Popoids" is a unique building system that helps your child develop hand, arm and shoulder strength, and encourages imaginative play. The brightly colored expandable pieces pop easily into place enabling children to create people, vehicles, animals and much more.
- Playing games with clothes pegs (i.e. place stickers with letters of the alphabet on clothes pegs and take turns putting pegs onto the rim of a can or bin to spell words or to write out the alphabet. Can also use stickers with numbers or be creative!)
- Place corn starch, food colouring and a little water inside a Ziplock bag and close the seal tightly (reinforce with duct tape). Your child can write letters or draw shapes or pictures in the bag with his/her fingers (Angermeier, Krzyzanowski, & Moir, 1998).





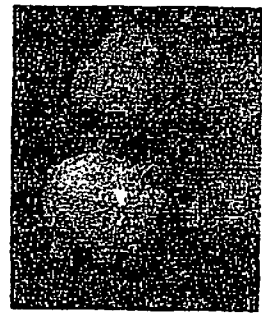
- Using a peg board, make designs with coloured elastics.
- Using a hand-held hole punch your child can create art where he/she punches out a variety of colourful holes and glues these punched-out circles onto paper
- Using a stapler (with supervision)
- Making pictures using stickers
- Beading (threading beads onto string)
  - Start with larger beads and pipecleaners and progress to smaller beads and string
- Making rubbings (i.e. leaf, coins, paper clips, etc.)
  - Making leaf or other rubbings can help children develop hand strength and skill using a crayon. When holding the crayon sideways, your child has to pinch it with the ends of his/her fingers, which will help to build up strength in his/her fingers.
- Cooking/Baking together
  - Have your child practice: opening and closing the containers where you store your ingredients, measuring out the ingredients, and pouring them into the mixing bowl. Also, having your child mix or stir the baking batter is a great way to increase his/her hand strength.
- Washing chalkboards and desk or table tops, and wringing out wet cloths or sponges
  - Could adapt this task by creating a water relay where your child has to transfer water from one bucket to another using a sponge
- Shoveling and other digging tools
- Opening and closing jars with lids that need to be screwed on tightly
- Towel pull: mark a center line on the ground using tape or chalk. You and your child stand on opposite sides of the line and grip opposite ends of the towel. Try to pull each other across the line.
- Squirt-gun activities: Have your child squirt water at balloons to keep them in the air or race them across a finish line (Levine, 1991).
- Pinch pots: have your child roll balls of clay, play dough or putty between the palms of his/her hands. Have him/her poke both thumbs down into the center of the ball and pinch all around to form sides of the pinch pot (make sure that your child continues pinching until the sides of the pot are of even thickness). Your child can also flatten out a lid for his/her pot. The pot can then be dried or fired in a kiln and decorated with paint later (Levine, 1991).
- Make your own play dough:
  - 2 cups flour
  - 1 cup salt
  - 2 cups water
  - 2 tablespoons cooking oil
  - 4 teaspoons cream of tartar
  - food colouring (optional)
    - Mix the flour, salt, and cream of tartar together. Add the water, oil and food colouring. Cook the mixture over low heat to medium heat for 3 to 5 minutes. Keep stirring until the mixture forms a solid ball. Allow play dough to cool and then enjoy! (this is a fantastic recipe!!!)





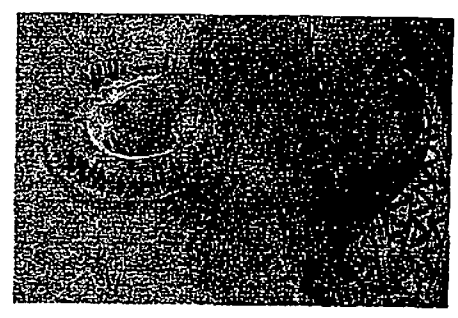
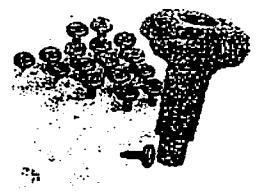
### **ENHANCING PINCER GRASP (precision grasp)**

- Placing coins in a piggy bank
- Spinning tops or dradles
- Rolling play dough into tiny balls (peas) using only the finger tips
- Eye droppers: Your child can make beautiful designs using an eye dropper with water coloured using food colouring. Have your child use the eyedropper to release one drop of coloured water at a time to decorate a coffee filter or paper towel.



Controlling the fluid in the eye dropper and squeezing the proper amount in the area needed requires refined pinch. A clothes pin can be clipped in the middle of the coffee filter, creating remarkable butterflies that can be hung in the windows around the house (Angermeier, Krzyzanowski, & Moir, 1998).

- Playing with Lite-Brite or other toys where the child has to insert pegs into holes. For example: "Battleship", "Mastermind" (also available in travel size)
- Peg board activities (can incorporate patterning to increase challenge)
- Placing stickers in a sticker book or spelling words with letter stickers (removing stickers from their backing requires the use of your child's thumb and index finger, thus strengthening the finger muscles needed for their pincer grasp).
- Screwing/unscrewing tiny nuts and bolts with fingers (can turn this into a relay race game or purchase construction kits)
- Playing games such as: "Connect 4", "Operation", "Bed Bugs", "Pop Up Pirates", "Pick-up-Sticks", "Jenga", and "Kerplunk".
- Drawing with Etch-a-Sketch or Magna Doodle toys (available in travel size)
- Playing tug-of-war with your child by holding a coffee stirrer or popsicle stick in the pads of the thumb and index finger (Angermeier, Krzyzanowski, & Moir, 1998).
- Wind-up toys
- Using clothespins (i.e. make patterns around the rim of a container or place letter stickers on the clothespins and have your child practice spelling words by attaching the clothespins to the rim of a basket or other container).
- Tiddlywinks: you and your child take turns shooting plastic discs towards a goal by pushing down on the disc with another disk, which is held using a fine pinch.
- Finger pull: you and your child form hand-circles by touching your thumb to your index fingertips. You or your child opens hand-circle to interlock fingers with the other's circle. Pull your hands away from each other, attempting to maintain a closed circle. The person who opens his/her fingers and allows the other to pull through loses the match (Levine, 1991).

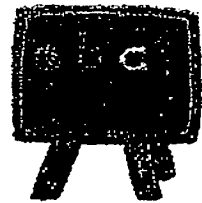


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## **ACTIVITIES THAT POSITION CHILDREN AT A VERTICAL SURFACE**

*- Note: Children will develop fine motor skills best when they work on a vertical or near vertical surface as much as possible. In particular, the wrist must be in extension (bent back in the direction of the hand). When working on a vertical surface, paper or work should be positioned just above your child's eye level. (Loubina Buxamusa, Occupational Therapist and Ann Mahoney, Early Childhood Specialist, <http://www.shrewsbury-ma.gov/schools/beal/readiness/finemotoractivities.html>)*

- Attach a large piece of drawing paper to the wall and have your child practice writing, drawing, connect-the-dots, mazes or colouring (even scribbling will help your child develop strength in his/her hands and shoulders).
  - 'Lite-Brite'
  - Windows (window writers now available from crayola)
  - Mirrors
  - Attach a large piece of felt to the wall or use a felt board. Your child can play with felt cut-outs (i.e. people, cities, houses, etc. made of felt).
  - Have your child work at a chalkboard that is attached to the wall. If you provide your child with smaller pieces of chalk he/she will be required to use a tripod pinch to hold the chalk (thus strengthening the muscles required for a firm pencil grip).
  - Paint or write at an easel or on a wall-mounted whiteboard
- (Special Education Services <http://k-12.pisd.edu/currinst/sped/OT/OTteachtips2.htm>)



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## **ACTIVITIES PROMOTING BODY AND SHOULDER STABILITY**

- **Pushing/Pulling open doors:** Opening and holding doors open improves strength and stability in the body and shoulders.
- **Shoveling activities:** Have the child shovel a variety of materials including: sand, snow, dried beans, macaroni, etc. When sitting or standing, the child lifts his/her arms, adjusts to the weight of the shovel, and maintains balance. These are all important skills to practice. Begin with small shovels in sitting, and progress to larger shovels that have long handles that the child can use while standing (Bruni, M., 1998).
- **Hammering:** Have your child try to hit a target with a toy hammer or mallet. This helps the child to develop arm movements while stabilizing with their body and shoulders (i.e. toy carpentry sets) (Bruni, M., 1998).
- **Pouring:** Have your child practice pouring beginning with activities that are easier and progressing to more difficult tasks. Pouring activities help your child to develop body and shoulder stability while learning to control movements of the arm and hand. Here is a progression for pouring outlined by Bruini, M (1998).
  - **Bathtub:** Show your child how to turn his/her wrist to pour water out of a cup in the bathtub and have your child try to imitate this motion.
  - **Standing at a water table or sink:** Have your child practice scooping and pouring water in the basin.
  - **At the sink or water table:** Have your child practice pouring water from one container into another, or into a toy such as a water wheel.
  - **Beach or sandbox:** Your child can practice pouring without worrying about having spills! (can practice pouring sand, water, mud...)
  - **Baking/Cooking:** Allow the child the opportunity to help pour ingredients into the bowl when cooking or baking. Dry ingredients are easier to control because they pour more slowly than water.
  - **At a table:** Have a small jug with a sturdy handle to practice pouring liquid. Have the child sit or stand in a sturdy position. The table should be at elbow height or lower to give the child room to lift his/her arms up to pour.
    - **Note:** When practicing pouring with your child you can create fun situations where your child will be motivated to do the pouring task. For example, have a number of glasses into which your child will add varying amounts of water. Your child can then add food colouring to the glasses (using his/her thumb and index finger to work on pincer grasp) and play musical tunes with the glasses and a spoon. You could also encourage your child to experiment with different levels of water and discover what happens to the sound of the music.
- **Skipping rope**
- **Picking up/placing down objects at different heights:** Stacking large blocks helps develop body and shoulder stability and is a great bilateral activity. Have the child pick up large blocks and stack them in a tower. Also, you can have the child reach up to get things off of high shelves (Bruni, M., 1998).
- **Climbing:** Climbing on furniture, climbing up stairs, and



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climbing on playground equipment all promote the use of the child's arms to pull his/her body up to a higher level (Bruni, M., 1998).

- Carrying a small tray: This activity requires your child to hold his/her arms steady to keep the tray level and steady while walking. Start with just the tray alone, and then progress to having your child carry plastic plates or cups, then with a sandwich on the plastic plate, and finally he/she may progress to carrying a cup with some liquid in it (Bruni, M., 1998).
- Swinging from a bar: Swinging along the monkey bars requires shoulder stability, strength, overall coordination, and confidence (Bruni, M., 1998).
- Twister game

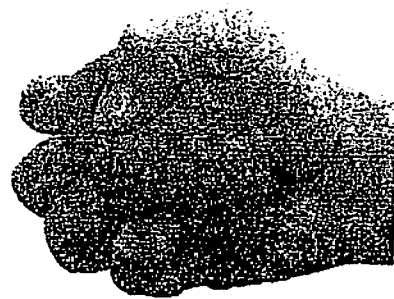
## PRE-SCISSOR SKILL ACTIVITIES

### Activities to enhance fine motor control:

- Providing opportunities for practicing timed grasp and release with tools other than scissors.
  - Use salad tongs to sort/pick up cotton balls, plastic balls, blocks, etc.
  - Picking up smaller objects using tweezers (i.e. Cheerios, small marshmallows, pennies, etc.).
  - Games: "Operation" & "Bed Bugs"
  - Use hand-held stapler (with supervision)
- Cutting without a demand for precision. For instance, try cutting pieces of straws, grass, strips of paper.

### Handgrip strengthening activities:

- Playing with spray bottles and squirt guns (your child can 'paint' the sidewalk or side of the house with a spray bottle filled with water or even water your plants)
- Using squeeze toys and 'stress balls' (during water play and air play) (Dollar Store)
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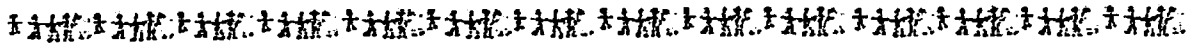


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- Place corn starch, food colouring and a little water inside a Ziplock bag and close the seal tightly (reinforce with duct tape). Your child can write letters or draw shapes or pictures in the bag with his/her fingers (Angermeier, Krzyzanowski, & Moir, 1998).
- Using a peg board, make designs with coloured elastics.
- Using a hand-held hole punch your child can create art where he/she punches out a variety of colourful holes and glues these punched-out circles onto paper
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  - o Have your child practice: opening and closing the containers where you store your ingredients, measuring out the ingredients, and pouring them into the mixing bowl. Also, having your child mix or stir the baking batter is a great way to increase his/her hand strength.
- Washing chalkboards and desk or table tops, and wringing out wet cloths or sponges
  - o Could adapt this task by creating a water relay where your child has to transfer water from one bucket to another using a sponge
- Shoveling and other digging tools
- Opening and closing jars with lids that need to be screwed on tightly
- Towel pull: mark a center line on the ground using tape or chalk. You and your child stand on opposite sides of the line and grip opposite ends of the towel. Try to pull each other across the line.
- Squirt-gun activities: Have your child squirt water at balloons to keep them in the air or race them across a finish line (Levine, 1991).
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- Play dough / theraputty activities (e.g. pressing, rolling, pulling, pinching, etc.)
- Hand puppets can help your child establish the hand movement of opening and closing the fingers and thumb (to move the puppet's mouth) that is used when he/she is learning to cut (Bruni, M., 1998).







*Activities to enhance coordination of two sides of the body:*

- For right and left arms and hands to work together: try clapping games.
- For hands and fingers to practice working together: try Lego, stringing beads, hand and finger rhymes such as "Itsy Bitsy Spider", "Peter Pointer", "Two Little blackbirds"
- Tearing and scrunching paper for paper-maché and collage work
- Using a single or double hole punch to make holes for lacing activities
- Mixing bowl activities so that one hand stabilizes the bowl and the other hand mixes the items. For tool variation, try a spoon, egg beater and fork

(<http://www.minds.org.sg/CDUweb/publications/CDUBriefsV2I6.htm#Developing%20Scissor%20Skills>)

### **CUTTING**

*~ Cutting is a higher level fine motor skill that uses many lower level skills. Skills required for cutting include: Bilateral coordination, body and shoulder stability, and dexterity (Bruni, M., 1998). Here are brief explanations of the skills required for cutting, followed by examples of activities that work to develop these necessary skills.*

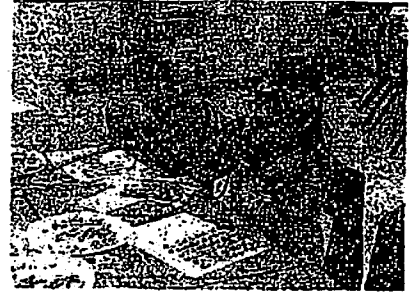
- *Bilateral Coordination:* The child's helper hand is required to position and adjust the paper so that the dominant hand can align the scissors with the paper to cut out the shape.
- *Stability:* Body and shoulder stability enable the child to make accurate movements with both hands.
- *Dexterity:* Wrist rotation helps the child position the cutting hand in the thumb-up, midline position; thumb control allows the child to move the thumb joint to open and close the scissor blades, without moving the whole hand; and hand stability allows the child to open and close the scissor blades with the thumb against the index finger, while the rest of the hand is stable and provides the control (Bruni, M., 1998).

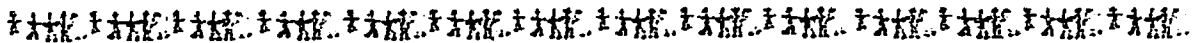


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## **ACTIVITIES PROMOTING BILATERAL HAND USE**

- **Threading cereal necklaces (i.e. fruit loops or cheerios):** Use pipe cleaners to start with and progress to stringing on a licorice string then to spaghetti string or boondoggle (or "gimp") (Yack, Sutton, & Aquilla, 1998).
- **Opening jars and containers:** Use small plastic jars and containers (i.e. Tupperware and film canisters) to carry child's snacks (i.e. raisins or cereal treats) and have your child open the jar to get inside. Pop off lids are easiest, turning lids come later and require the dominant hand to do the turning and the helper hand to hold the jar stable (hand-over-hand may be needed at the start and can be faded with the child's skill improvement) (Yack, Sutton, & Aquilla, 1998).
- **Spreading jam, peanut butter, icing and more:** Use plastic cutlery, wooden tongue depressors or popsicle sticks as "knives" (to ensure safety). Large rice crackers or flour tortillas do not break as easily as crackers or bread (Yack, Sutton, & Aquilla, 1998).
- **Marshmallow creations:** Gather toothpicks and different sized marshmallows and create creatures by poking toothpicks into the marshmallows. Allow your child the opportunity to be creative... anything is possible! (monsters, vehicles, people....) (Yack, Sutton, & Aquilla, 1998).
- **Two-handed building toys (i.e. Lego, Duplo...)**
- **Lacing cards, tying shoe laces, or weaving activities**
- **Stenciling**
- **Carrying large objects (i.e. groceries, boxes, etc. that require the use of two hands)**
- **Mr. Potato Head game**
- **Wind-up toys**
- **Hammer and nails:** Toy construction sets that encourage the use of tools. Your child will be required to use one hand as a stabilizer while the other hand manipulates the tool
- **Singing hand songs:** "Itsy-bitsy spider", "Where is Thumbkin", "Two little blackbirds", "the wheels on the bus go round and round"
- **Musical percussion instruments:** maracas, cymbals, cans filled with beans, and drums (Therapy Skill Builders, 1991).
- **Playing clapping songs:** "Pat-a-cake", "Miss Mary Mack", and "Stella-ella-olla"
- **Paper ripping:** have your child rip paper into strips and small pieces to make collages or papier-mache
- **Finger paint and paper:** your child can either scribble freely using both hands in alternating patterns or finger paint with one hand while stabilizing the paper with the other hand
- **Cutting with scissors:** have your child use one hand to hold and manipulate the paper while the other hand manipulates the scissors (your child may need hand-over-hand assistance to learn this skill)
- **Paper and crayons:** colouring or drawing on smaller pieces of paper encourages your child to stabilize the paper because otherwise it slides all around





- c. Simple card games
  - d. Musical instruments (i.e. piano, recorder, guitar, banjo ~ these could be real or toys)
  - e. Hand and finger puppets
  - f. Pushing buttons (i.e. telephone, elevator, doorbells, etc.)
  - g. Child's tape player (child can press buttons for 'play', 'stop', 'rewind' etc.)
  - h. Reading books with push/pull tabs and/or lift-the-flap books (i.e. 'Spot the dog books') (Bruni, M., 1998).
- Being able to use just one finger while curling the other fingers out of the way helps children to learn to control each finger individually. Here are some activities that promote this position:
    - Finger painting
    - Playing 'Simon says' games where the focus is on hand and finger movements (i.e. moving thumbs up and down, opening and closing hands, wiggling each finger by itself) (Levine, 1991).
    - Powder play: lightly sprinkle flour, icing sugar, cocoa, jelly or Kool-Aid powder on a cookie sheet or in a bin and have the child draw roads or train tracks (encourage creativity)
    - Fingertip games: draw faces or place stickers on the pad of each of your child's fingers. Your child can wiggle each finger separately to make each face "talk". Also, you can make a game where you ask your child "show me the red star"... (Levine, 1991).
    - Have your child help you make instant pudding (have your child open the package, pour the contents of the package, pour other ingredients into the pan and stir ~ all these tasks are important for improving your child's hand strength) and use paper plates or regular paper to finger paint on with the index finger as the painting finger and the other fingers curled out of the way.

(4.) Wrist Movement → Responsible for positioning and stabilizing our hand for function and precision (Bruni, M., 1998).

- a. Playing Frisbee
- b. Drawing on an upright surface (i.e. easel, blackboard or at a wall). Working on a vertical surface promotes the wrist extension and shoulder stability necessary for control of the fine movements involved in writing.
- c. Slinky toy (with palms facing upwards your child can 'slide' the slinky from one side to the other
- d. Throwing/tossing beanbags into buckets or from one hand to the other
- e. Opening and closing jars and lids
- f. Turning a key in a lock and, doorknobs



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## DEXTERITY

"Skill and ease in using the hands" (Bruni, M., 1998, p. 63).

(1.) Grasp and Release → "Grasping is reaching for, picking up, and holding an object.

Release is letting go purposefully" (Bruni, M., 1998, p. 63).

- a. Bath toys
- b. Building blocks
- c. Pegboards
- d. Squeeze toys and wet sponges
- e. Shape sorter toys
- f. Playing with clay, play dough, or cookie dough
- g. Puzzles (these challenge your child to release accurately)
- h. Transferring objects from one hand to another
- i. Putting objects into containers (i.e. coins into piggy bank)

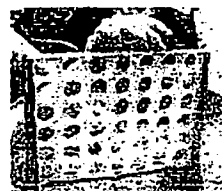
(2.) Pinch and Thumb Control (pincer grasp) → "Pinch refers to the ability to oppose the tips of the thumb and index finger in order to pick up very small objects" (Bruni, M., 1998, p. 64)

- a. Playing with peg boards
- b. Releasing coins into a piggy bank
- c. Etch-a-Sketch or Magna Doodle
- d. Stringing beads
- e. Stamps using stamp pads
- f. Spinning tops and dardles
- g. Games involving tweezers (i.e. "Operation" & "Bed Bugs")
- h. Squeezing clothespins
- i. Pulling caps off/putting caps on pens and markers
- j. Rolling playdough into tiny balls (peas) using only the finger tips
- k. Playing with Lite-Brite or other toys where your child has to insert pegs into holes (i.e. " Battleship")
- l. Screwing/unscrewing tiny nuts and bolts with fingers (can turn this into a game)
- m. Playing games such as: "Connect 4", "Pop Up Pirate", "Pick-Up-Sticks", "Jenga", and "Kerplunk".
- n. Placing stickers in a sticker book or spelling words with letter stickers (removing stickers from their backing requires the use of your child's thumb and index finger, thus strengthening the finger muscles needed for their pincer grasp).
- o. Playing tug-of-war with your child by holding a coffee stirrer or popsicle stick in the pads of the thumb and index finger (Angermeier, Krzyzanowski, & Moir, 1998).



(3.) Finger Coordination → ability to move and coordinate the fingers separately from each other. Children need good finger control for colouring, writing, and cutting with scissors (Bruni, M., 1998).

- a. Connect 4 game
- b. Spray bottles and squirt guns



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- Rotary pencil sharpener: your child must use one hand to hold the pencil in the sharpener and the other hand to make the sharpener work (Levine, 1991)
- Using a ruler: have your child use a ruler to make straight lines (i.e. for making a calendar, graph, or picture frame)