

Sensorial

A Manual for Early Childhood (Ages 3 to 6+)

Instructor's Album

PREVIEW

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PREVIEW

Blindfolded Sorting



Photo by Annenberg Learner (2012)

Blindfolded Sorting

Age 3.5 and up	Prerequisite Lessons Sorting laundry (as you put clean laundry away); Mystery bag
Purpose:	
<ul style="list-style-type: none"> To refine the stereognostic sense and aid the child in mentally visualizing 	

Materials:

- One basket or tray with a larger center compartment and three or four side compartments; side compartments are empty; center compartment contains a mixture of three or four (to match the number of side compartments) different objects as follows:
 - Set 1: Different sizes of the same solid shape (e.g., three significantly different sizes of corks)
 - Set 2: Different shapes of the same general size (e.g., beads that are spheres, cubes, rectangular prisms, and ovoids; different legumes)
 - Set 3: Different shapes of the same general size that include textures (e.g., elaborate beads)

Presentation: Same shape, different sizes

- Begin the lesson by inviting one child to do the work with you. Bring the tray and blindfold to a work area. (Note: Most objects are in the center but one of each size is already placed in each side compartment.)
- Pick up an object from the main pile and feel it with your right and then left hand. Close your eyes and repeat. Say, "It feels different when I close my eyes."
- Give the child a turn feeling an object with his eyes open and closed. Return the item to the main pile when finished.
- Say, "I'm going to try and sort all of these into the right compartment without even looking!" Put on the blindfold.
- Pick up an object from the pile. Hold it in your left hand.
- With your right hand, pick up and feel the object in the first compartment.
- If it doesn't match, put it back and continue to feel the next object with your right hand.
- When you find a match, switch hands to verify and then place both objects in the compartment.
- Continue until all objects from the main pile are sorted into the compartments.
- Take off the blindfold to see if you're right.
- Give the child a turn. Fade and observe. Encourage repetition.

12. When the child is finished, say, “Let’s get this ready for the next person to use. We’ll put one of each type in their own compartment and leave the rest in the main pile.”
13. Complete the lesson.

Exercise #1: Same size, different shapes

1. Same as the presentation but use sorting set two.

Exercise #2: Same size, different shapes with textures

1. Same as the presentation but use sorting set three.

Language:

- Offer a separate 3-period lesson on the names of the materials you’re sorting (e.g., corks, beads, legumes). If you have miniature geometric solids to sort, save those for after the child has the geometric solids lesson.

Games:

- None (isolating the sense is inherent in the mode of activity)

Control of Error:

- Visual
- The size of the contents and their containers (volume)

Notes:

These are sometimes called the “progressive exercises.” These are great activities to have out when you don’t have enough materials in your classroom (if your budget hasn’t allowed a full classroom just yet).

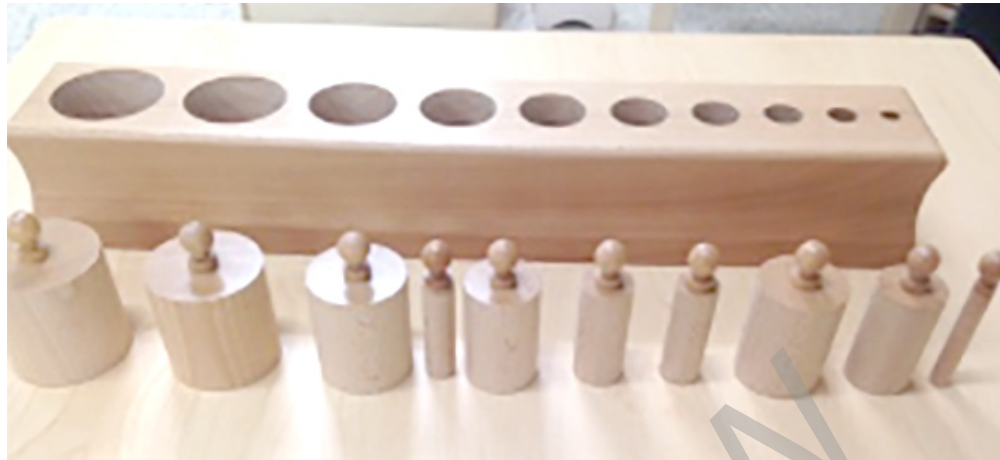
For the presentation, you might use dramatically different sized pom-poms (all the same color), corks, or spools. Test all materials yourselves to make sure it is possible to succeed before introducing them to the children. For Exercise #1 you might use different grains (rice, barley, oats, wheat, mustard seeds, peppercorns, lentils) or different brass beads (a sphere, cylinder, heart, and rectangular prism). Try to find objects that are similar in color help to isolate the sorting concept (i.e., size, shape).

Do sorting preparatory work with polishing cloths, napkins, washcloths, etc. You might build this naturally into your schedule by sorting your clean laundry every Monday.

If the child resists the blindfold, show them how to do it just by closing their eyes.



Cylinder Blocks



The first block: Tall and thick to tall and thin
Photo by J. Boggs (2016)



The second block: Short and thick to tall and thin
Photo by J. Boggs (2016)

Cylinder Blocks

<p>Age</p> <p>2.5 to 3.5</p>	<p><i>Prerequisite Lessons</i></p> <p>Basic understanding of the cycle of activity achieved through foundational practical life activities (e.g., walking on the line; pouring water)</p>
<p><i>Purpose:</i></p> <ul style="list-style-type: none"> • To directly aid in the child’s visual discrimination of dimension • To indirectly prepare the child for writing by encouraging the three-finger opposition (pincer movement) in the use of the knobs • To indirectly prepare the child for future studies in mathematics 	

Materials:

Four blocks containing ten cylinders, each with a knob and each fitting into its respective hole. The blocks should be arranged in the following order on the shelves:

- The first block (Nienhuis Block 2): All cylinders have the same height but diminish in diameter successively from thick and tall (5.5 cm x 5.5 cm) to thin and tall (1 cm x 5.5 cm); Each differs in two dimensions (width and breadth)
- The second block (Nienhuis Block 3): All cylinders diminish in diameter and increase in height successively from thick and short (5.5 cm x 1 cm) to thin and tall (1 cm x 5.5 cm); Each differs in three dimensions (width, breadth, and height)
- The third block (Nienhuis Block 1): All cylinders diminish successively in diameter and height from thick and tall (5.5 cm x 5.5 cm) to thin and short (1 cm x 1 cm); Each differs in three dimensions (width, breadth, and height)
- The fourth block (Nienhuis Block 4): All cylinders have the same diameter but decrease in height successively from tall and thin (2.5 cm x 5.5 cm) to short and thin (2.5 cm x 1 cm); Each differs in one dimension only (height)

Presentation: The first block (Nienhuis Block 2)

1. Invite the child to do the work with you. Go together to get the materials.
2. Say, “This is a cylinder block. We carry it like this.” Model the carry using your left hand on the left end of the block and right hand on the right end. Hold it at waist height. Put it back down (without making a sound) and invite the child to carry it to a table of his/her choosing.
3. Place the block in the center of the table and sit on the child’s right side. Say, “First I’ll have a turn and then you can have a turn.”

4. Using your right hand, pinch the largest cylinder with your thumb and first two fingers (the pincer grasp). Place it in the front, center of the block (so the child can see it, right in front of the child).
5. Take out the smallest cylinder and place it next to the largest cylinder.
6. Take out the middle cylinder and place it in next to the smallest one.
7. Continuing taking out all cylinders and place them randomly in front of the block (out of order).
8. Look at all the empty holes!
9. Pick up the cylinder farthest to the left using the pincer grasp. Carefully and precisely slide it slowly into its hole (try not to make a sound).
10. Continue for the remaining cylinders. Go at the pace of the child.
11. Give the child a turn. Fade and observe. Encourage repetition. Complete the lesson.

Exercise #1: Any block

1. The child is free to work with any of the blocks in the manner shown in the presentation.

Exercise #2: Two blocks

1. Say, "Today we'll need two cylinder blocks!" Have the child choose two and carry them one at a time to their table. Place them parallel to each other on the table, one on the left and one on the right.
2. Say, "Let's take out all of the cylinders and carefully place them in the middle of the two blocks."
3. Take out the biggest cylinder from the left block and place it in between the blocks. Notice that you put it down without making a sound.
4. Take out the smallest from the right block and place it in between the blocks.
5. Continue randomly and precisely taking all cylinders out and mixing them up well until all cylinders are standing between the two blocks.
6. Work with the child to put all the cylinders back, fading away as soon as the child is independent.
7. Fade and observe. Encourage repetition. Complete the lesson.

Exercise #3: Three blocks

1. Same as Exercise #2 but with three blocks placed in a triangle (ends touching). Place the cylinders in the middle of the triangle when you remove them. (*Note: The child may need to stand up so that they can see inside the triangle.*)

Exercise #4: Four blocks

1. Same as Exercise #2 but with all four blocks placed in a square on the table (ends touching). Place the cylinders in the middle of the square when you remove them.

Language:

After they've worked a great deal with a block and have done all the blocks together, you can give them comparatives & superlatives:

- The first block: thick and thin
- The second block: none because no dimension is isolated
- The third block: large and small
- The fourth block: tall and short (for the cylinders); deep and shallow (for the holes)

Games:

- Matching at a distance
- Grading at distance (from an extreme or midpoint)
- Isolate the sense (blindfold)
- Cooperation game

Points of interest

- Silently placing the cylinders on the table
- The sound and resistance offered (if any) when placing the cylinder in the block
- The perfect fit

Common core standard

- Geometry: Analyze, compare, create, and compose shapes

Control of error:

- The holes in each block (a mechanical control built into the material)

Accommodations:

If the child needs an additional scaffold, present the blocks in the order suggested in the materials list. This order minimizes the possibility of needing adult assistance because it minimizes the possibility of cylinders getting stuck in the wrong hole. If they continue to have difficulty, guide them to trace the hole and/or feel the cylinder so that their stereognostic sense may scaffold them.

1. Nienhuis Block 2 (thin/tall to thick/tall)
 2. Nienhuis Block 3 (thin/tall to thick/short)
 3. Nienhuis Block 1 (thin/short to thick/tall)
 4. Nienhuis Block 4 (thin/short to thin/tall)
- Remedial Exercise #1: Remove the largest cylinder first and place it directly in front of its hole. Remove the smallest cylinder next and place it directly in front of its hole. Remove the median cylinder next and place it directly in front of its hole. Return those three cylinders to the block and give the child a turn.

- Remedial Exercise #1-1: Begin as in Remedial Exercise #1 but include all cylinders as the child is able.
- Remedial Exercise #1-2: Begin as in Remedial Exercise #1 but present the second block. Continue with as many cylinders as makes sense for that child.
- Remedial Exercise #1-3: Begin as in Remedial Exercise #1 but present the third block. Continue with as many cylinders as makes sense for that child.
- Remedial Exercise #1-4: Begin as in Remedial Exercise #1 but present the fourth block. Continue with as many cylinders as makes sense for that child.

Notes:

Always start with three great contrasts: take the largest, then the smallest, then the middle. Present these early in the year but not until the children have some foundational control from working in practical life. Older children can move quickly to the games.



*The third block: Tall and thick to short and thin
Photo by J. Boggs (2016)*



*The fourth block: Tall and thin to short and thin
Photo by J. Boggs (2016)*



Two at a time



Three at a time

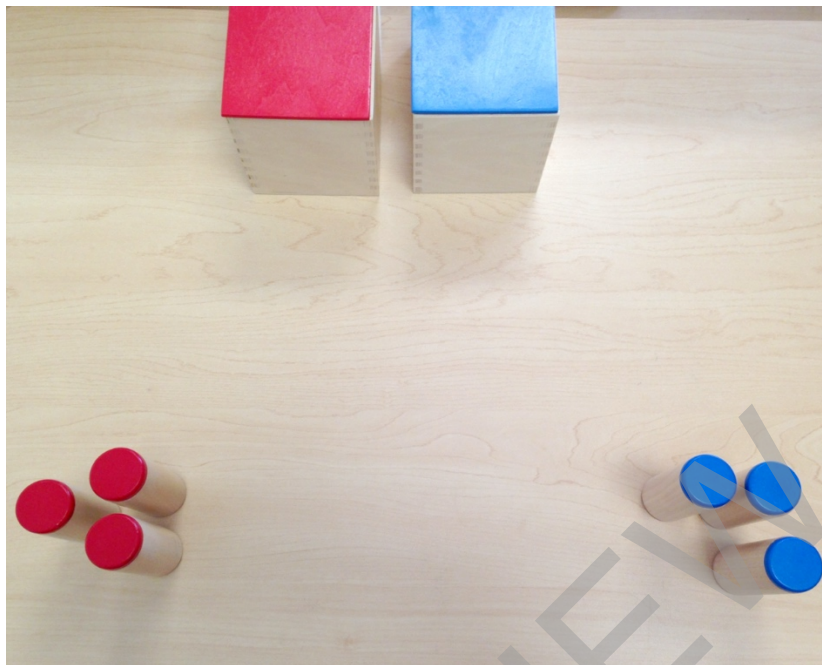


Four at a time
Photos by J. Boggs (2016)

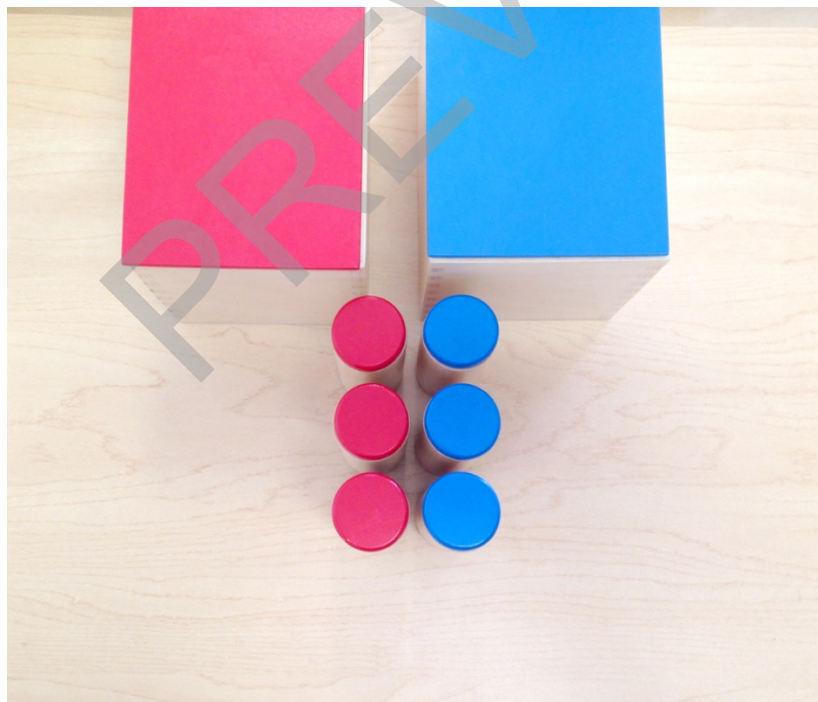


We model the pincer grasp on the knobs (see right hand) but the child sometimes uses a different grasp (see left hand). When you see this, do not correct, re-present.
Photo by Annenberg Learner (2012)

Sound Cylinders



Presentation: Randomize three great contrasts
Photo by J. Boggs (2016)



Presentation: Three great contrasts matched
Photo by J. Boggs (2016)

Sound Cylinders

Age 3 to 5 years	Prerequisite Lessons Spoken language; Bell games (Pass the bell)
<p>Purpose:</p> <ul style="list-style-type: none"> • To develop auditory discrimination • To indirectly prepare the child for the silence game 	

Materials:

- One set of sealed wooden cylinders with a red lid containing materials that make a distinctive sound when shaken by the child; the cylinders are graded from very soft (e.g., fine sand) to loud (e.g., pebbles)
- A set of sealed wooden cylinders with a blue lid with contents (and volume) that precisely match the red-lidded cylinders
- One box with a red lid
- One box with a blue lid

Presentation: Three great contrasts

1. Before inviting the child to this work, prepare the red and blue boxes so that the three great contrasts are lined up in a column on the left of each box.
2. Begin the lesson. Guide the child to carry the prepared red box to your table.
3. Place the box in the center of the table in front of the child. Open the box and show them what's inside! Place the lid just above the box on the table.
4. Very carefully (without a sound) remove the prepared (three great contrasts) red cylinders from the left column and place them randomly on the left side of the table.
5. Say, "We'll use the others a different time." Close the box and leave the other cylinders inside. Place the red box in the top center of the table.
6. Repeat for the blue box and place the prepared cylinders randomly to the right side of the table. Place the blue box just to the right of the red box. (The boxes together make the top of the matching columns)
7. Pick up a red cylinder with a full hand grasp in your left hand and say, "Listen!" Shake it next to your left ear two to three times.
8. Switch hands and shake it next to your right hear two to three times. Place it directly in front of the child (isolated from the other cylinders)
9. Pick up a blue and shake it the same way. Shake your head yes or no if it matches/doesn't match.

10. If you do not have a match, shake your head no and move the blue to the bottom right of the work area (away from the other blue cylinders).
11. If you have a match, pick the red one up with your left hand and shake it. Then, shake the blue one with your right hand to verify. Switch hands and shake one more time to confirm.
12. If you have a match, place them next to each other just beneath the boxes on the table.
13. Move the blue cylinder from the lower right part of the table back up to the rest of the blue cylinders.
14. Choose a new red cylinder and repeat until all cylinders are matched.
15. When they are all matched, pick up the bottom right cylinder with your left hand and the bottom blue cylinder with your right hand. Shake them next to your ears to confirm the match and then place them together right in front of you.
16. Continue for all the matches to verify (make adjustments if needed).
17. Say, "Now you can have a turn! Let me get it ready for you."
18. Randomize the red cylinders on the left side and the blue cylinders on the right side and give the child a turn.
19. Fade and observe. Encourage repetition. Complete the lesson.

Exercise #1: All six cylinders

1. Same as presentation but use all six of the cylinders from each box.

Exercise #2: Gradation

1. Begin as in Exercise #1 and randomize all cylinders on the left (red) and right (blue) of the table.
2. Pick up one red one and shake it. Continue until you find the loudest one. Put it at the top of the table, beneath the red box.
3. Pick up another red one and shake it. Continue until you find the next loudest red one. When you have it, pick up the loudest one and shake it. Put it back down and then shake the next loudest one to verify.
4. Continue in this fashion (always verifying against the last one graded in the column) until all cylinders are in order in a column in front of the red box.
5. When all are placed, verify the sequence by listening to the loudest one first and continuing down to the softest.
6. Let the child follow the same procedure for the blues. (Line them up next to the reds in order of volume; do not compare to the reds until finished.)
7. When finished, verify the matches of the blues and the reds just as in Exercise #1.

Language: Vocabulary

1. Begin the lesson. Take the red box to a table but remove only the loudest and the softest red cylinder.
2. Shake the loud cylinder and say, "This is loud." Let the child have a turn.
3. Repeat for soft.
4. Conduct a three-period lesson on "loud" and "soft."
5. Complete the lesson.

Language: Comparatives and superlatives

1. Begin the lesson. Take the red box to the table but remove only the loudest, softest, and middle gradation cylinders (three total).
2. Pick up one and shake it. Say, "This is loud." Have the child do the same thing.
3. Pick up another and shake it and say, "This is louder."
4. Say, "Can you find me one that's loud." Then say, "can you find me one that's louder."
5. Then, shake them and put them all in order. Say, "This is loud." Have them shake it and repeat "loud."
6. Repeat for "louder" and "loudest."
7. Say, "Show me the one that is "loud." Repeat for louder and loudest.
8. Mix them up and say, "Can you find the loudest." Then, "Can you find one that's loud." Then say, "can you find one that's louder than this one," and point to the softest one. Have them shake the loud one first to find the louder one.
9. Repeat another time for soft, softer, and softest.
10. Complete the lesson.

Games:

- Matching at distance
- Grading at distance
- Isolate the sense (hide something behind your back or beneath a scarf and ask the child to guess what is making that sound)

Accommodations:

- If matching all six cylinders is too difficult, begin with three and add one cylinder at a time. You may remove the extraneous cylinders to a special location on the shelf to increase the inherent control of error.
- If grading the reds and the blues is too difficult, grade only the reds for Exercise #2. Add in the blues as a separate lesson after much experience with the reds.

Control of Error:

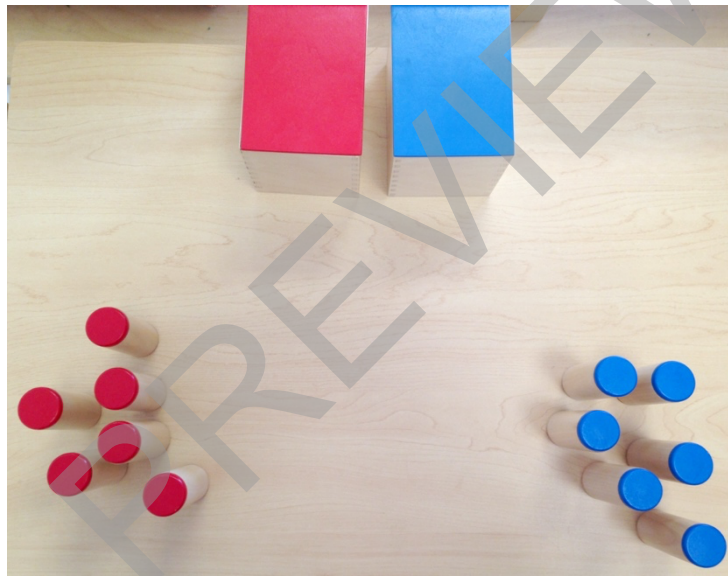
- The limited number of pairs (the error should reveal itself when the final cylinders are matched)
- The child's ability to discriminate sounds

Notes:

In some cases, you may proceed directly to Exercise #1 after the presentation. Remember that the child must decide if it is right or not, not you. The materials are self-correcting. If they can't find the error, they're not ready to.

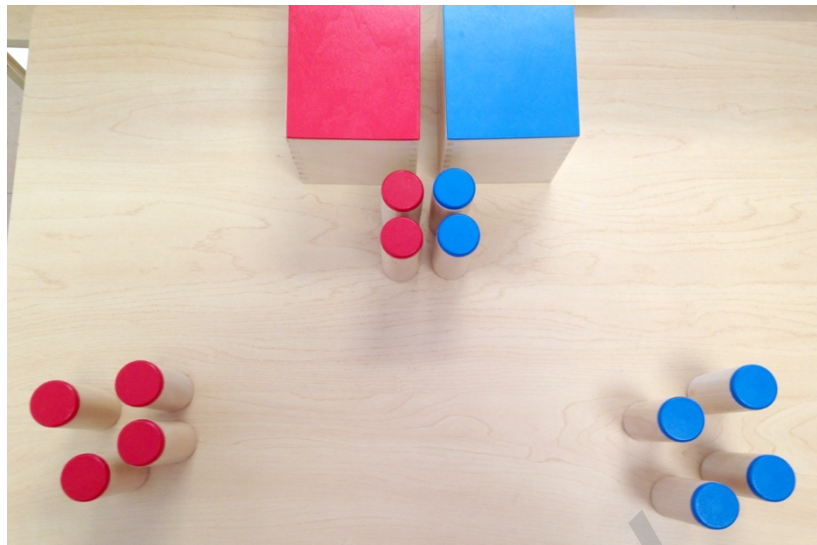
Sometimes color coding is used on the bottom of the cylinders but this is not required. The auditory sense can find the errors. If the child cannot succeed with this work, this is a diagnostic signal to you. Consider if their hearing is obstructed.

Comparatives and superlatives can also be done as a game at a distance without language and then later, with language. Without language, it is just gradation. With language, you give them the abstract to go with their concrete.

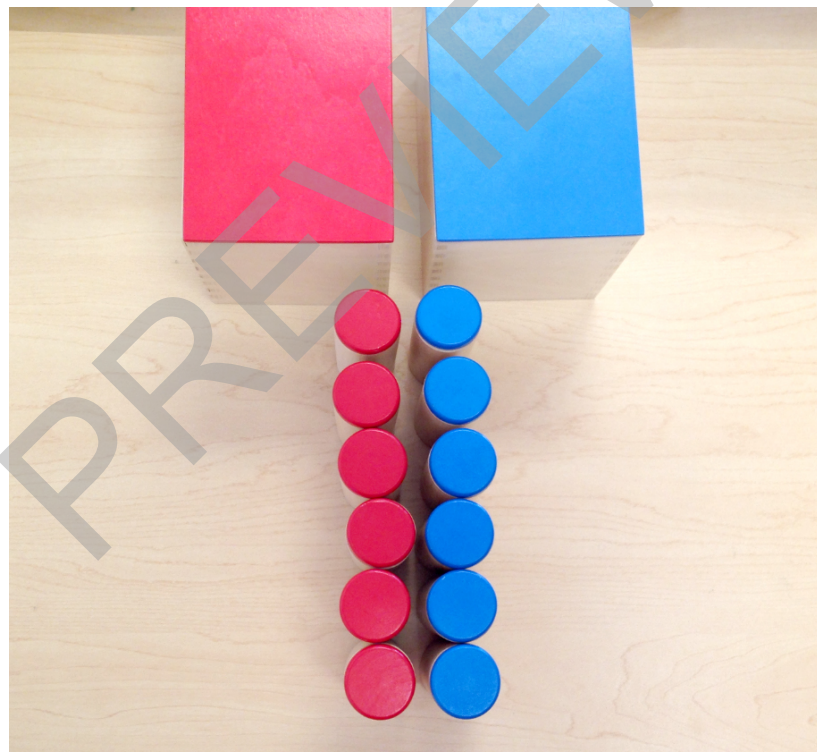


Exercise #1: Randomize all cylinders

Photo by J. Boggs (2016)



Exercise #1: Matching all cylinders
Photo by J. Boggs (2016)



Exercise #1: All cylinders matched
Photo by J. Boggs (2016)