OPEN UP!

The Occupational Therapy Play and Storage Bench

Designed by Kelli Wills

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A special thank you to Pat and John Reade.
Without your help, my vision would not have become a reality.

Description

This is no ordinary bench. With this simple design, one can evaluate and perform an endless variety of interventions without ever having to relocate. What makes this possible is the amazing ability of this bench to transform into a table. The inside allows for a great deal of storage and endless possibilities. When not being utilized as an intervention tool, this feature can still be used as seating, thus not wasting any space. OT clinics can easily become cramped and crowded when there is limited space and this bench solves many of those problems. Occupational therapists have flexibility, creativity, a surplus of ideas and can really be considered the multi-tool of the healthcare industry. Therefore, this workstation was designed to reflect the same versatile characteristics. The only limits as to what can be done with this bench is your own imagination. I have included some ideas of items that could be stored within this bench and grouped them into stations. I hope you enjoy creating this item and coming up with even more creative ways to use it!

Materials

- White pine lumber (1x4) *actual measurements are (1” x 3 ½”)
- White pine shelving board *This is a wide plank board 1"x18"x4’ (actual measurement is 3/4" x 17-1/4"x 4’)
- Plywood (¼”)
- Ledger strips (1x2)
- Wood screw (1-¼”)
- Finish nails (3d-1-¼)
- Hard wood dowel rod (¼”) *This rod will be cut into 2” pieces.
- Continuous hinge (1-½”x 12”) *screws included
- Wood glue
- Sandpaper
- Polyurethane
- Sponge paint brush
- 1 yard of fabric cut into two (13” X 17”) rectangles
- Velcro strips
- Super glue
- Handles (optional)
- Felt (optional)
- Power drill
- Router machine
- Sewing machine (hand sewing is an option)
- Staple gun

Instructions: Making the Frame

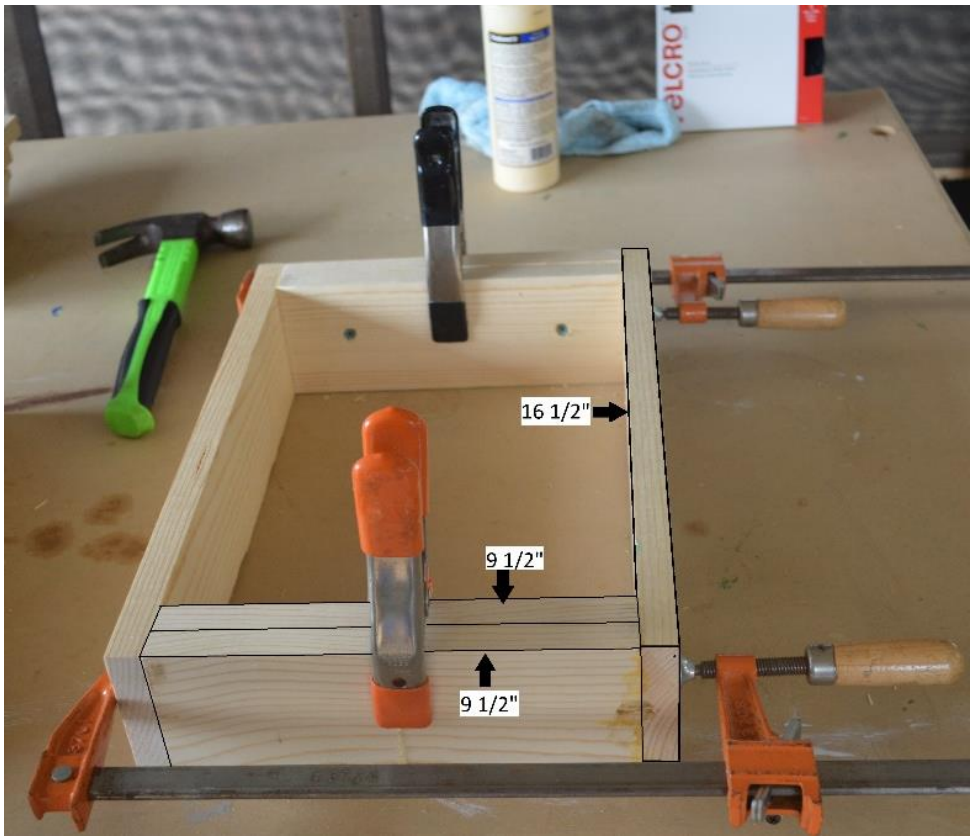
36” L x 11” H x 18” W

1. Using 1x4 white pine lumber, lengthwise, cut
    a. six 16 ½ “ boards
    b. twelve 9 ½” boards

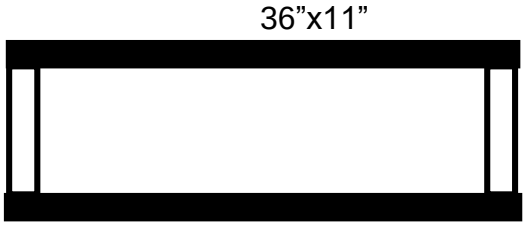
    These will be used to make three rectangles for the frame.

    1 rectangle = two 16 ½” and four 9 ½” boards.

2. Making a rectangle: Using wood screws, screw two 9 ½” boards together for each side. (a total of four 9 ½” boards).
3. Using two 16 ½ boards and two of the doubled 9 ½ boards, form rectangle. Glue the rectangle together using wood glue and clamps.

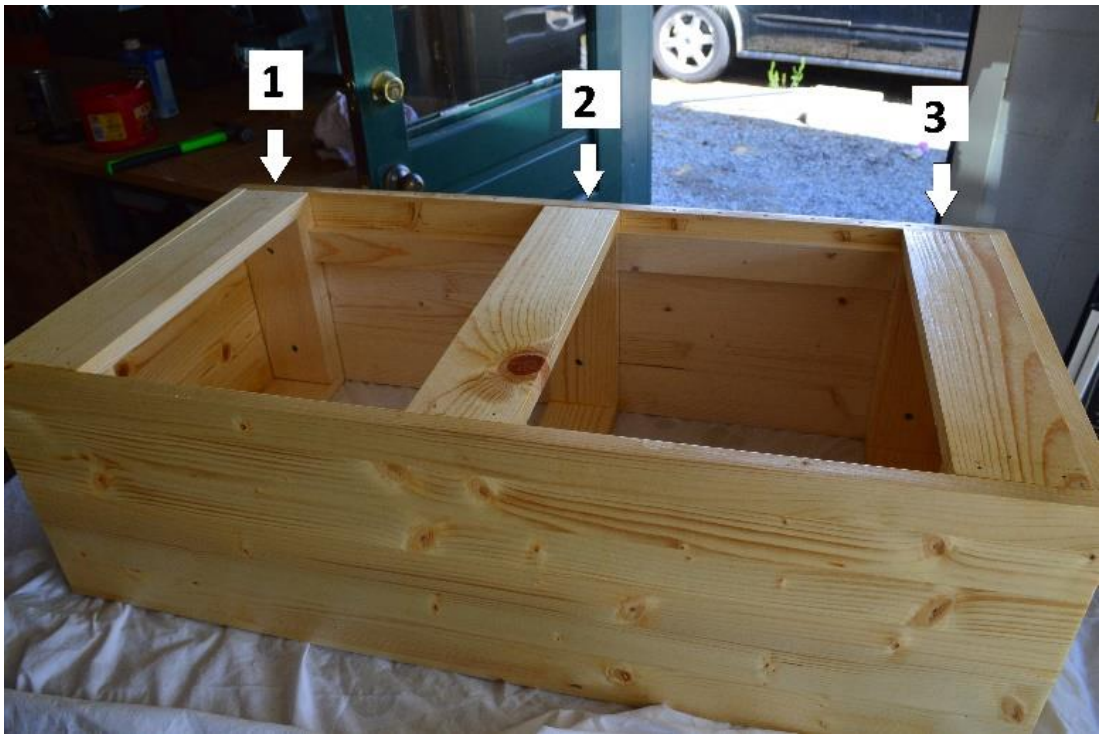


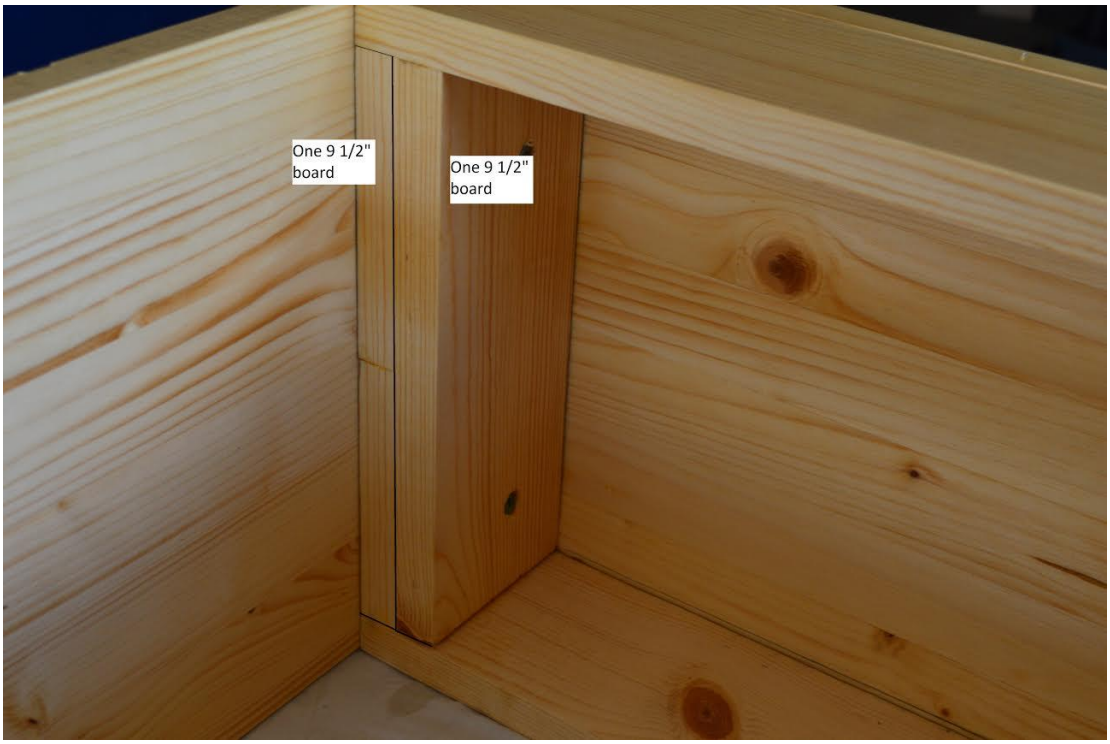
4. Once the rectangle has dried, drive two Finish nails (3d-1-1/4”) into the corner of each 16 ½” board into the 9 ½” board to secure the rectangle together.
5. Set aside until later.
6. Cut 4 pieces of white pine shelving board. 2 pieces 36”x 11” and 2 pieces 16 1/2”x11”
7. Form a rectangle using the 4 pieces.



8. Glue each side together using wood glue.

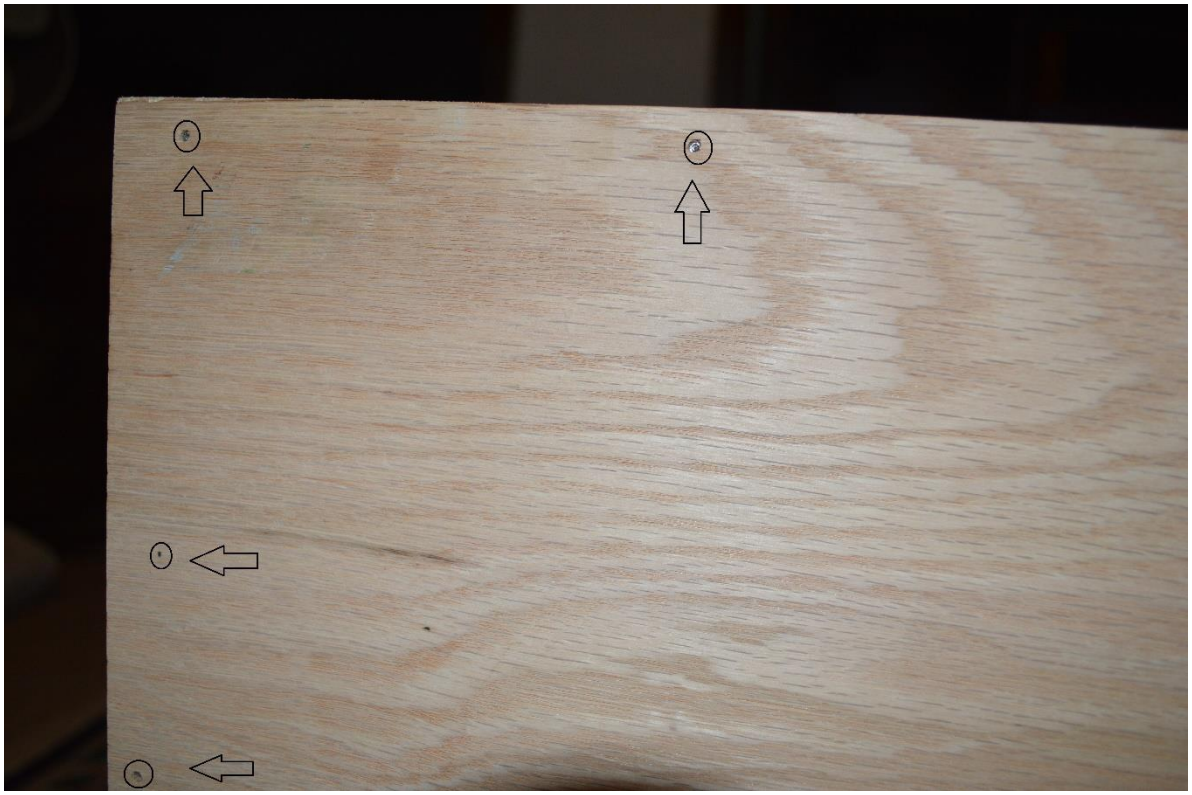
9. Once the glue is dried, place the three rectangles (steps 1-4) inside the larger rectangle. You may need a hammer to tap the smaller rectangles into place. Each should be around 12” apart (The openings measure 12”).





10. Tap ledger strips, cut 12” length, into place between each rectangle on both sides of the frame. Leaving about 1” of space at the top, screw each strip into the frame using 1 ¼” wood screws.

11. Attach the bottom of the frame (plywood) by nailing from the bottom around the border with the finish nails.

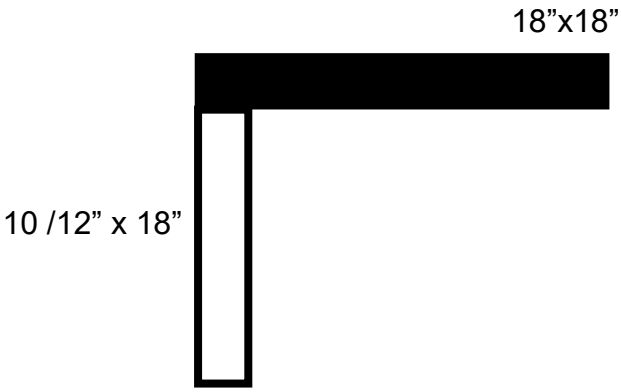


12. Sand all rough edges and apply multiple coats of polyurethane to all outer surfaces of the base until you have the desired look. (I did about 5 very thin coats)

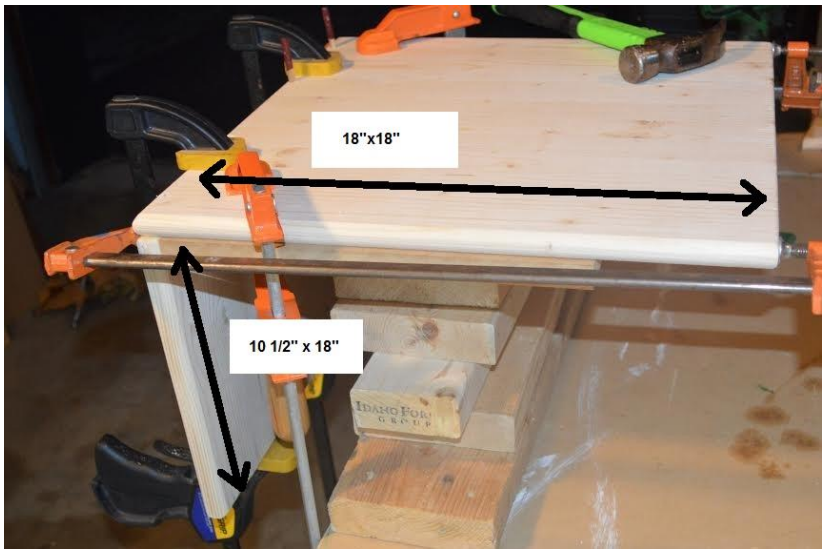
Instructions: Making the seats/lids/table top

1. Cut the shelving board into two squares measuring 18” x 18” and two rectangles measuring 10 ½” x 18”. (optional: using a routing machine, round the edges)
2. Apply polyurethane to the squares, as many coats as is desired. (This can be done later, but I found that it would have been easier to do before continuing to the next steps).

3. Making a seat: Using one 18”x18” square and one 10 ½”x18” rectangle, connect the two 18” sides together to form an L:

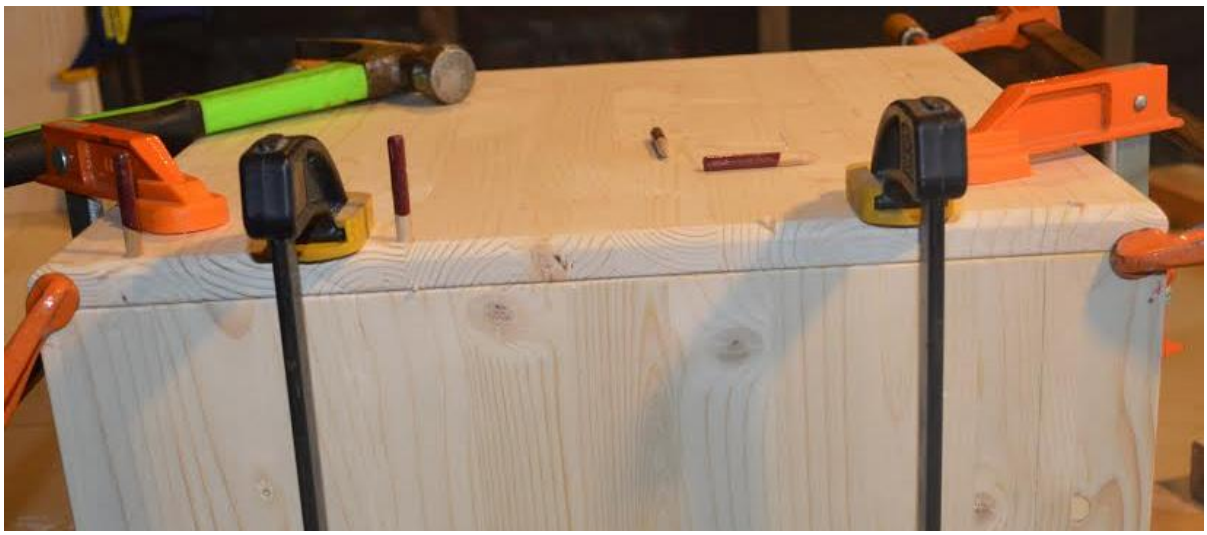


4. Using clamps and wood glue, position the “L” as shown in the figure below.

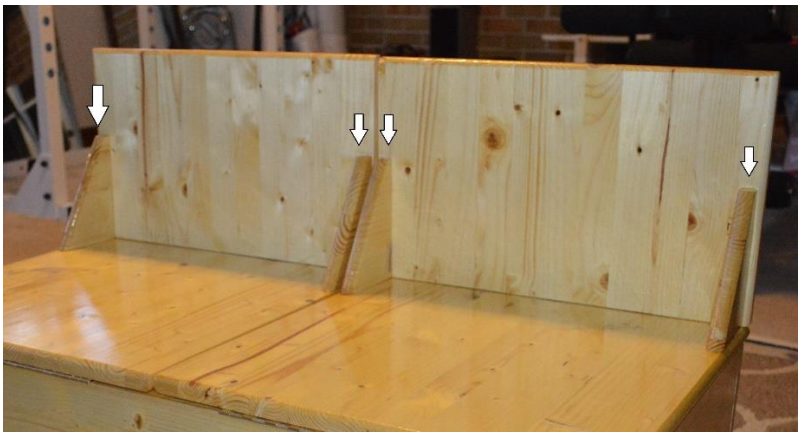


5. Allow glue to dry and then using a power drill, drill four ¼” wide holes along the edge of the 18”x18” square that is connected to the 10 ½”x18” rectangle.
6. In each of these holes, place a wooden dowel rod (which will serve as wooden nails). The rods are to be cut into 2” long pieces and whittled to a point.

7. Place a wooden nail into each drilled hole and hammer into place. Saw the tops off of the nail evenly with the board and sand down.



8. In order to provide adequate support for the table as well as for the back support, two braces must be cut and applied to the corners. The braces were made from scrap pieces of the shelving board and measured approximately (4”Wx6”L) before cut diagonally and the edges were rounded on the router machine. These were attached using clamps and wood glue as shown below. It would also be suggested to apply polyurethane before attaching the corners to the seats.



9. Repeat directions 3-8 for the second seat.

Instructions: Putting it all together

1. Now that the frame and seats have been constructed, it is time to put them together. Place the continuous hinge (1-½”x 12”) on the frame, between two of the rectangles and using the screws that are included with the hinge, screw the hinge to the frame.
2. Using props, such as scrap wood, line the seat up with the frame in order to screw the hinge to the seat.

3. Repeat for the other seat.

Instructions: Making the cover

In order to reduce distraction, a cover is suggested for the storage area of the bench for when the lid is open and being used as a table.

I bought 1 yard of fabric that I liked.

- Cut two rectangles from the fabric, each measuring 13”x17”
- Create a hem by folding the edges and sewing them down
- The rectangle should now measure 12”x16”
- Along the hem, sew down the soft part of a Velcro strip
- The rough part of the Velcro will be glued to the top of the ledger strips on the frame.

- The cover can be pulled back by the OT to access the storage area as needed.

- Repeat instructions to create two covers.

Instructions: Optional additions

- A felt strip can be applied to the frame, where the seat hits as it is being closed to reduce noise.

- Handles can be added to the sides of the bench to assist with carrying.

- A Velcro strip can be added to each back corner to keep the seat closed until the OT wishes to open it.

Activity Ideas

Dressing Center:

Below are some suggestions on what to store within the bench to work on dressing. Examples of some activities are also provided as well as what performance components the activities are addressing.

- Mirror. So children can watch themselves putting on the clothes as well as see what they look like after they are all dressed up. The use of mirrors can assist when working on *dressing apraxia* and *unilateral neglect* by allowing the child to see their body as they dress.

- Dress up clothing items with a variety of fasteners (zippers, buttons, snaps, etc.). Children can practice donning and doffing the clothing which will work on *finger dexterity, coordination and in-hand manipulation* in order to use the different clothing fasteners. *Eye-hand coordination, balance, fine and gross motor movements, problem solving, and right-left discrimination* will be used when placing body parts into the various clothing.

- Shoes with laces. A cheap pair of tennis shoes can be used to teach children to tie shoes. The shoes can be different sizes as they will not be worn, just used as a tool to practice. A variety of different types of laces could be stored in the bench as well. An activity such as this would work on *memory, sequencing, and following directions* when the child is learning the steps necessary to tie a shoe. *In-hand manipulation and fine-motor movement* would be necessary to successfully tie the shoe.

- Dolls and clothing. Children can practice dressing the doll for different seasons, occasions, ages, etc. This would work on *recognition, logical thought,* and *decision making*, as the child determines which article of clothing would be appropriate. For example: If a girl is going to bed, she would wear pajamas but if she is going out to play in the snow, she would put on a coat. To be able to dress the doll, the child will use *finger dexterity* and *in-hand manipulation.*

- Paper dolls. A variety of different clothing cut outs can be used with paper dolls to address multiple subjects, such as what to wear according weather, event, time of day, seasons, etc. *Decision making, listening,* and *concentration* are all addressed when deciding how to dress the paper dolls. For example: If a man is going to a job interview or special occasion, he would wear a tie, but if he is going to the beach, he would probably wear shorts. *In-hand manipulation, fine motor movements, and finger dexterity* are just a few things that can be addressed during this activity as the child dresses the paper dolls.

- Weather related clothing. Children can play dress up according to what the weather is (rain, snow, hot, cold, sunny, windy, etc.). Props such as an umbrella, rain boots, sunglasses, scarf, gloves, etc. can also be stored in the bench. Pretend play such as this would address *decision making, logical thought, and judgement* as the children determine which article of clothing is needed for the type of weather that is presented. *Right-left discrimination, and fine and gross motor movements* will be necessary to don and doff the clothing items.

- Toys in a container. Desired toys can be stored in a variety of containers that open and close with a type of clothing fastener, which will address *problem solving*. For example, store Legos in a bag that zips or crayons in container that snaps. The motivation to get the toy will prompt children to work with the fasteners. This would work on *impulse control* and *frustration tolerance*, as the children will have to slow down and *concentrate* on how to open the container so that they can play, which gives this task *meaning* to them. *Fine motor movements* and *grasp patterns* will be used to manipulate the clothing fasteners on the containers.

- Socks. Have a variety of bright, colorful socks in a bag and ask the child to sort the socks. *Following directions* will be the first step in this activity, then the child must use *visual processing* skills to *recognize* the different colors and use matching skills to *organize* the socks in the correct pairs. *Grasping* skills will also be tested as the child must grasp the socks and use *in hand manipulation* and *finger dexterity* to fold the socks together once a pair is made.

- Super Hero Costumes. This is a dress up activity that boys can enjoy just as much as girls. In order to “morph” into their alternate identity, children will need to use *problem solving*, as the costumes can have a variety of different buttons, ties, snaps, zippers, etc. When donning and doffing the costumes, the children will be working on *finger dexterity*, *in hand manipulation*, and *fine motor movements* as they work with the clothing fasteners. *Gross motor movements* and balance will also be required as children don and doff the different clothing items.

Feeding Center:

Below are some suggestions on what to store within the bench to work on feeding. Examples of some activities are also provided, as well as what performance components the activities are addressing. Following each activity, you can introduce a variety of actual food depending on the needs of the child.

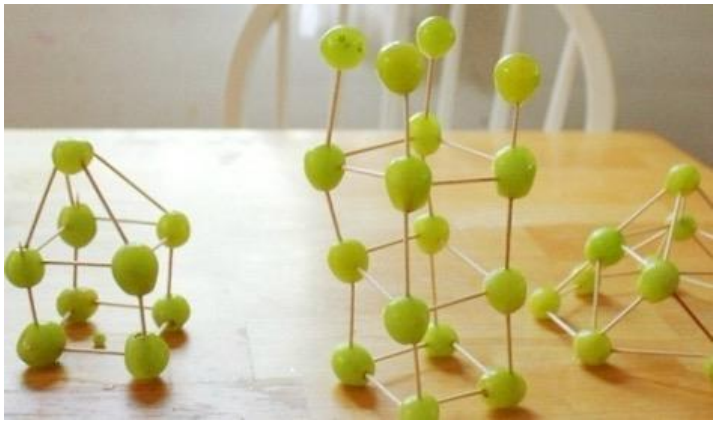
- Play food/kitchen. Plastic or wooden pretend food can be stored in the bench as well as pretend cooking utensils, menus, cash register, money and pretend play clothes for chef/waiter. Dressing up as a waiter or chef and enacting the part addresses *role performance*. The act of cooking the food would require *creativity, eye hand coordination, finger dexterity, and fine and gross motor movements.* Delivering the food would require *reach, in hand manipulation, grasp patterns, and joint mobility.*

- Plastic play food (pictures of foods could also be used). Take several baskets, and label each one as a food group. Then ask the child to try to sort the different items which will address *recognition, categorization, following directions, problem solving, reach, grasp patterns and memory.* (You can make boxed pretend food by using the mini cereal boxes and printing your own labels with pictures to glue on the box). The five basic food groups are shown in this image:

- Play or plastic dishes/utensils. Children can practice setting the table properly. Instructions, or a visual diagram, can be given to the children and they will be asked to replicate the setup, which will address *recognition* of different utensils, and *following directions* in order to put each item in the correct place.

- Doll, spoon. A doll can be used to teach a child to hold a spoon and bring it up to the mouth. Practicing feeding the doll will work on *concentration, following directions, grasp patterns, joint mobility, and reach.*

- Toothpicks, fruit, veggies, and/or marshmallows. In this activity, children will be making structures by sticking toothpicks into food items such as grapes, salad tomatoes, strawberries, carrots, cheese, marshmallows, etc. Constructing the structures will require *creativity* and *decision making*, while placing the toothpicks will require *eye-hand coordination, finger dexterity and in-hand manipulation.*



- Puppets and felt food cutouts. Hand puppets can be purchased or made using socks. Shapes of different foods can be cut out of felt sheets and used to "feed" the puppets. The children can help in the construction of the puppets and/or the food which would address *fine motor movements* and *creativity*. Feeding the puppets would open the door to introduce any foods that the child does not prefer.

- Play doh. A variety of foods can be made using different colors of playdoh. Pizza, salad, hamburger, peas, beans. Feeling the playdoh is a good sensory activity, and rolling the doh into shapes works on *recognition, memory, in-hand manipulation, and fine motor movements*. The activity can be tailored to work on the needs or concerns of the client. For example: If the client doesn't like vegetables, you can help them make a carrot garden to harvest. They can even make rabbits to share the carrots. Once they have harvested the play doh carrots, you can introduce real carrots for them to taste.

- Tennis ball, dried beans, spoon and bowl. Cut a slit into the tennis ball, that will serve as a “mouth”. Draw or glue eyes onto the tennis ball to make it look like a face. Children can then feed the tennis ball dried beans using a spoon. This activity would work on *concentration* as they attempt to put the beans into the mouth, *grasp patterns* when holding the spoon, and *eye-hand coordination* while trying to scoop the beans from the bowl.

- Sensory bins. A variety of sensory bins containing items such as dried beans, water beads, rice, sand, etc. can be stored within the bench to work on *sensory processing*. *Fine motor movements and finger dexterity* can be addressed depending when the child picks up items using fingers, tweezers, shovels, etc.

Grooming: Below are some suggestions on what to store within the bench to work on grooming. Examples of some activities are also provided, as well as what performance components the activities are addressing.

- Doll with hair brush. A doll with long hair can be kept in the bench with a hair brush. Children can brush the doll's hair while working on *grasp patterns and muscle endurance.* OT can talk to the child about brushing their own hair and why it is important.

- Toothbrush and fake teeth (can be purchased on amazon.com for $6.99). Children can practice brushing the fake teeth working on *fine motor movements, sequencing and following directions.* You can divide the teeth into six quadrants (upper back right/upper back left/ lower back right/ lower back left/ top front/ bottom front). Each section should be scrubbed for at least 30 seconds each for a total of three minutes of brushing. This will also work on *time management and following directions.*

- Laminated sheets, markers, tissues, and spray bottle/water. Different areas that need to be washed can be addressed by laminating pictures of different body parts (face, hands, full body, etc.). You, or the child, can then take a brown marker and draw dirt on the laminated image. The child can then use tissues and water to wipe away the dirt while working on *sensory processing, ROM, and self-awareness.*

- Mirror and marker. While a child stands in front of the mirror, the OT or the child can draw "dirt" on their mirror image face and body. Then the "dirt" can be washed off using cleaning solution and a rag. The use of mirrors can assist when working on *unilateral neglect* by allowing the child to see their body as they clean up.

- Tub with water and no tears soap. Children can practice washing different things such as cars or dolls, which will address *sensory processing and in-hand manipulation.*

- Shaving cream. Shaving cream activities can be performed on the table top of the bench to work on *sensory processing* issues. It could also be used to simulate soap or shampoo to wash different things such as plastic animals, plastic dishes or cups, cars, etc. which would require *in hand manipulation and attention.*

Reading/Writing/School related work: Below are some suggestions on what to store within the bench to work on school related activities such as reading, writing, math, etc. Examples of some activities are also provided, as well as what performance components the activities are addressing.

- Books: A variety of different books can be stored in the bench. A child can practice reading by choosing a book they find interesting to *motivate* them. The books could also be used to help a child use *creativity* by coming up with their own version of the story by using the pictures from the book.

- Paper/writing utensils: Fun activities that address writing concerns such as *finger dexterity, fine motor movements, grasp patterns, etc.* can be performed at the table bench. It is important to make it feel like a game rather than school work. One idea would be to play tic tac toe using letters such as “A” and “a”, rather than “x” and “o”.

- Crayons: Coloring activities can address a number of performance components such as *creativity, in-hand manipulation, and finger dexterity.* Crayons can also be sorted by the child into piles based on color or size. One can also use the crayons to make different shapes like squares or triangles, or to create a picture using different sizes of crayons. Crayons could also be stacked to work on *fine motor movement and problem solving.*